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DROPSY OF THE AMNION.

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In most cases, dropsy of the amnion occurs only in the later months of pregnancy, and rarely in a degree sufficient to be more than a cause of tedious labor.

The tediousness in such cases is, doubtless, owing in part to the enfeebled condition of the uterine muscular fibres from over distension ; more especially is it due to resistance of the tough membranes which render the accumulation possible.

While a moderate excess of liquor amnii at such a time is not uncommon, a great and dangerous dropsical distension of the amnion in the early part of gestation is very rare.

This latter condition undoubtedly is often prevented by the distension provoking powerful action of the uterus, and thus inducing abortion.

I do not find a case of early and extreme dropsy of this membranous sac reported in the transactions of the London Obstetric Society from the time of the organiza-

tion of that institution to the present. Dr. Hodge, in his great work on Obstetrics, ignores it ; while Cazeaux and Leishman only compile a short account of it, and leave the impression that neither of them has seen it.

I desire to call attention to a case that recently came under my observation, in which the accumulation was so great as to endanger the life of the patient and call for instant and decided means of relief.

The patient was an Irish woman, thirty-three years of age, the mother of three children, the youngest of which was two years old. She had always enjoyed good health, and passed through her previous pregnancies and labors without the occurrence of any unusual circumstance. When I saw her, August 30th, 1875, she supposed herself to be five months pregnant, and had for several weeks perceived foetal movements.

About two months previously she had noticed enlargement of the abdomen, and since that time had increased in size very rapidly. When I first saw her, she presented the appearance of a patient with a very large multilocular ovarian tumor. The distension was so great that it caused much difficulty in breathing, and materially embarrassed the circulation.

The tumor extended up to and under the ribs, crowding the diaphragm high up into the thorax, displacing the heart upward, and pressing the costal cartilages outward nearly to a horizontal elevation.

The tumor was not definitely globular in its outline, but filled every portion of the abdomen and appeared to be packed into all the irregularities of that cavity. Its anterior portion was very prominent and uneven in contour, with several globular elevations of different sizes. One of these, and perhaps the largest, occupied the epigastric and a part of the right hypochondriac regions, the appearance of which strongly resembled one of the cystic prominences so often observed in the multilocular ovarian tumor.

To the left and a little below the umbilicus, a similar

but smaller eminence could be seen, while the whole umbilical region was occupied by what seemed to be another very large cystic projection. The lumbar regions were prominent but dissimilar in contour.

The varied postures which the patient was directed to assume made no difference in the shape of the tumor.

Percussion elicited no resonance in any part of the abdomen except very near the spine on both sides.

Fluctuation was apparent in every direction, but not equally. It was very indistinct anteriorly below the umbilicus, when percussion was made on the side of the tumor, but was quite distinct when the two hands were near together in this neighborhood.

From opposite sides, on a level with the umbilicus, very decided fluctuation could be elicited. Fluctuation could also be perceived distinctly in any distant part of the tumor when percussion was made over the epigastric elevation, or on the hypogastric region. No fluctuation was felt when the hand was placed over the resonant lumbar regions.

Upon making a vaginal examination, the uterus was found to be very low in the pelvis, the mouth far back toward the sacrum and sufficiently open to admit the finger, and the membranes were very tense. I could feel the head of a foetus anterior to the cervix, and perform ballottement very easily; thus demonstrating the existence of pregnancy.

By passing two fingers high up in the left side of the pelvis, manifest fluctuation could be detected by them when percussion was made upon the upper part of the tumor.

The general aspect of the patient indicated great distress; her breathing was hurried and imperfect, and her countenance was suffused; the pulse was accelerated and feeble; the feet and legs were cedematous; the skin dry but not unnaturally warm, and the patient complained of great thirst. For two nights she had been unable to assume the horizontal position from a sense of

impending suffocation, and had slept but little in the sitting posture.

Drs. J. N. Lilly and E. O. F. Roler met me in consultation at 2 P. M., August 31st.

There was no difficulty in ascertaining that all the symptoms were caused by a great accumulation of fluid in the abdomen, but what was the containing cavity was not so easily determined. The appearances alone, indicated, as we thought, the complication of a multilocular ovarian tumor with pregnancy. We did not think of ascites, and dropsy of the amnion was not certain. By evacuating the fluid we could most likely arrive at a correct diagnosis.

The idea of paracentesis, although discussed, was not entertained for fear of puncturing the impregnated uterus; and we determined to evacuate that organ for the purpose of making one step in the diagnosis, if it did not relieve the patient.

With the female catheter I ruptured the membranes and removed a pint or more of fluid, and through the rupture could feel the naked feet of a foetus.

As an elastic and very tense substance was still to be felt in the os uteri, and I was not certain of its nature, I requested Dr. Lilly to make an examination. He declared he could feel the unruptured membranes, and that I was mistaken in supposing I had penetrated the bag of waters. I requested him to finish the work. After making strenuous efforts to do so with his fingers without success, I gave him the catheter, and it required considerable force to pass the instrument through the membranes. When he succeeded the bed was instantly deluged with water, and the abdominal tumor diminished with great rapidity.

Soon the outline of the contracting uterus could be seen and felt through the abdominal walls. The evacuation and contraction continued, until, the uterus assumed its ordinary shape and size at five months' pregnancy. Thus the diagnosis and relief to the patient were both accomplished.

Squibb's fluid extract of ergot, in doses of thirty minims every two hours, was prescribed, and she was left in the care of Dr. Lilly, whose patient she was. After a short rest the uterus began to contract vigorously, and in about two hours two foetuses, with their placentæ and membranes, were expelled. Dr. Hutchinson, who was called to the patient on account of an unavoidable absence of Dr. Lilly, made a careful examination of the expelled contents of the uterus, and assured me that, with the exception of the unequal development of the two membranous sacs, he could find nothing unusual about them. The foetuses were equal in size and very like each other in appearance. Taking everything into consideration, it was evident that the membranous cavity of one foetus was normal, while that of the other was distended with an enormous accumulation of amniotic fluid, and the membranes themselves were abnormally dense and tough. Much of the difficulty in arriving at a correct diagnosis in this case was caused by the great irregularity in shape and extreme amount of the distension. The early occurrence and rapidity of increase of the accumulated fluid, also produced uncertainty.

Cazeaux, who is closely followed by Leishman, says that dropsy of the amnion rarely occurs before the fifth month of pregnancy. In this case it commenced about the end of the third month, and attained a dangerous magnitude in the space of seven or eight weeks.

The two authors just mentioned speak of the difficulty of distinguishing between ascites and dropsy of the amnion, but do not consider the likelihood of confounding the latter affection with ovarian dropsy. They give the general symptoms present in our patient in a marked degree, viz., scanty urine, œdema of the lower extremities and genital organs, thirst and fever, as indicating the presence of ascites instead of dropsy of the amnion.

Dr. Washington L. Atlee, in his work of unsurpassed value on the general and differential diagnosis of ova-

rian tumors, speaking of dropsy of the amnion, says: "In this form of dropsy, therefore, it must be plain how closely it resembles encysted or ovarian dropsy in its physical characteristics. In being rapid in its development also, it is not unlike acute cases of ovarian tumors. It differs, however, from that, in uniformly suspending menstruation, and by altering the shape of the cervix uteri in proportion to its development, rapidly expanding and obliterating it, which is readily ascertained by examination." He might also have added ballottement as a valuable differential sign.

Dr. Atlee details three cases, two of which he saw, and for the other he copies the notes of Dr. James W. Kerr, of York, Pennsylvania. One of the patients was five months advanced in pregnancy with twins, when spontaneous miscarriage took place. He estimated the amount of amniotic fluid discharged, at three gallons. His other patient was seven months pregnant with quadruplets, when the four sets of membranes ruptured successively and spontaneously, and the whole contents of the uterus were expelled. The case communicated to him was mistaken for peritoneal dropsy, and tapped at the end of six months. Thirty-two pints of amniotic fluid were evacuated, when the uterus contracted down to its usual size at the sixth month of pregnancy. In a few days the fluid was accumulating so rapidly that it became a question whether the operation should not be repeated, as all the urgent symptoms were returning. Two weeks, however, from the time the fluid had been evacuated by the tapping, spontaneous expulsion ended the difficulty. The woman recovered rapidly from her confinement, and during the year and a half which had elapsed, at the time of writing, had enjoyed excellent health.

Dropsy of the amnion is not mentioned as one of the fluid accumulations in the abdomen, liable to be mistaken for ovarian tumor, by Mr. Spencer Wells, in his work on ovarian tumors, or Dr. Peaslee, in his book on the same subject.

A RARE CASE OF FRAGILITAS OSSIUM.

By WALLACE BLANCHARD, M.D., CHICAGO.

In a general view of the subject, bone may be considered as made up of two proximate principles—the organic and the inorganic; upon the relative apportionment of which its strength depends.

A marked variation from a standard may be taken as a condition of disease; an excess of the organic matters constituting the rachitis so frequent in childhood and the osteo-malacia of adult life; while the opposite condition, of a preponderance of the inorganic or earthy materials or certain of them, gives us the fragility so often troublesome in the aged.

Fragility is very infrequent in early life, and when it does occur, I believe it may be of a different variety, pathologically, from the senile form. No attempt is made to indicate this in the medical literature at my command; surgical authors mainly agreeing with Grant that “fragility is pathologically the opposite condition to rickets,” and giving but little further satisfaction as to the etiology and pathology of the disease.

Chassier gives a remarkable case in a child that survived its birth but twenty-four hours. Gross gives the case of a young man, “whose extremities were repeatedly broken by the most trivial accidents,” and also a case of congenital fragility running through three generations, one of a family of children suffering five fractures.

The case here reported is that of Miss J—, aged twelve years and six months. At birth she was pronounced a healthy baby, but at her second month of life she suffered a fracture of the left femur, at or near the neck, and has demonstrated the brittleness of her osseous structure, every three or four months since that date, with astonishing regularity.

The mother’s enumeration of fractures produced, is as follows: Right arm, 3; right fore-arm, 4; left fore-arm, 3; right thigh, 2; left thigh, 3; right leg, 14; left leg, 11;

total, 40. To this I would add a well marked transverse fracture of the sternum, between the fourth and fifth ribs, which, though the mother and daughter are at variance as to the date of its occurrence, has certainly existed for a long time. This is the only fracture not occurring in the long bones of the limbs; and the left humerus is the only one of these long bones so far, which has escaped the accident.

In more than one-half the fractures of the fore-arms, both radius and ulna were broken simultaneously, and in all the fractures of the leg, the fibula gave way with the tibia. In fact, a solution of continuity in the long bones, has been repeated in the limbs of this child at least sixty-eight times.

We have but a slight suggestion in these fractures, of the laceration and contusion that accompany the fracture of a healthy bone, as well as of the inflammation and congestion that usually accompany it; consequently this patient has suffered but comparatively little pain.

The force required to produce a fracture in this case can hardly be termed violence; a step from the sofa to the carpet, or the most trivial slip or fall, being sufficient.

The process of union is tedious in the extreme. On removing the dressings at about the seventh or eighth week, the provisional bone uniting the fractured ends has about the firmness of the rubber in the pencil-mark eraser in common use; and two or three years are required to bring the union to any considerable firmness. Usually, however, the dressings have been removed at the second or third month, and the new union being of too pliable a material to resist the contracting power of the muscles, a gradual mal-position has followed; reaching its greatest consummation a little more than a year from the time of fracture, and in the year or two following, becoming comparatively firm in its new and vicious position. This has been repeated till the poor child is in truly a pitiable state of deformity.

In each case, the displacement has been of an angular

variety, the callus being of sufficient strength at the time the splints were removed, to keep the fractured ends of the bone approximated.



In the cut made from a photograph, the seeming shortness of the thighs is largely due to their being nearly on a plane parallel to the camera. The lines running from the figures 1 and 2 indicate the elbows; and those from 3 and 4 terminate at the lower edge of the patellæ. The distortions of the right fore-arm and thighs, are not as well shown as those of the left fore-arm and legs.

The family history gives no evidence of a scrofulous or other morbid taint, and both parents indignantly deny the possibility of any syphilitic infection. The mother says that from her first month of pregnancy up to the time of her delivery, she suffered constantly from sickness at the stomach; being able at no time whatever to retain even the smallest amount of solid food, and that she lived almost entirely on essence and tea of peppermint slightly sweetened. One night during the second month of parturition, she suffered from urinary retention, accompanied by very severe pain, which was relieved by

catheterization. For three months afterward her urine was voided with an intense burning sensation.

The girl's appetite is generally good, and her food is as nutritious and varied as could be desired; while the assimilating process seems to be as perfect in all the soft parts of the body, as could be expected.

The muscles are very well developed, except where they have become atrophied through a total want of use.

She has been at various times on such general tonics as iron, quinia, and strychnia, and for extended periods the vegetable acids have been exhibited, but so far with no perceptible effect on her fragile diathesis. She is very intelligent, and still retains considerable dexterity in the use of her hands and arms.

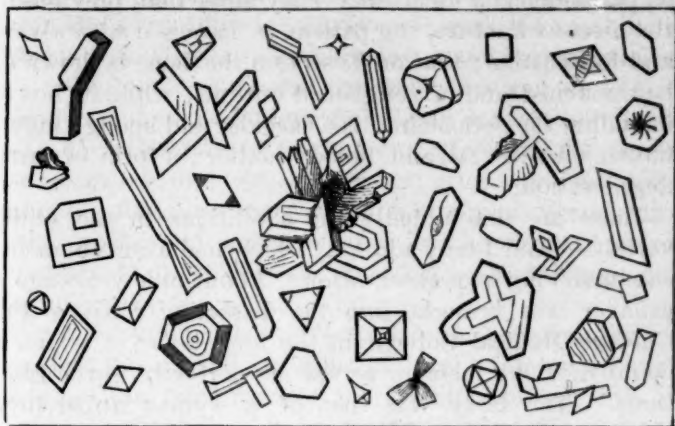
It may be stated that an inordinate quantity of earthy, especially phosphatic, matter, in the urine, is one of the diagnostic symptoms of this disease.

The microscopical examination of the urine of this little patient reveals a field of exceeding beauty. It is absolutely covered with crystalline forms. These are mainly of the phosphate of lime, with occasional octahedra of oxalate of lime, and a more moderate display of crystals of the urate of soda, phosphate of ammonia, etc.

Knowing that any verbal description I might attempt would fail to convey an accurate idea of this condition, I have again invoked the assistance of the engraver. Beside the forms given in the cut (and they are but samples of those most constantly appearing,) there are frequently recurring spherical masses of the urates and phosphates, that might be termed microscopic calculi, covering, often, nearly the whole field; and the intervening spaces are everywhere dotted with amorphous urates.

The urine has an acid reaction to litmus paper. This is probably due to an excess of phosphoric acid. Beale says: "It must not be supposed that highly alkaline urine necessarily contains a very large excess of earthy phosphate; for often an excessive quantity of the salts

has been found dissolved in acid urine." The urinometer shows the rather unusual specific gravity of 1.080.



Etiologically considered, we may conclude that this disease was probably engendered during the period of gestation; the mother's blood becoming, through her long and forced partial starvation, too impoverished to supply the needed elements to her child in utero for the proper development of its osseous structure.

During the mother's urinary retention, there may have been a degree of uremic poisoning; but that is doubtful. There is no evidence of other causes.

Pathology.—The morbid action seems to be a chronic state of osseous inanition; from partial obliteration and diminution of the calibre of the ramifying canals supplying the nutrient cells. This, if long continued, would give the periosteum a greatly increased density, while it would leave the agents of assimilation and nutrition within the cortex, in a perishing condition. I think a dissection of the bone, would show the cortical portion to be a thin, smooth and compact shell, covering a reduced cancellated structure, and an enlarged medullary canal.

Paget, Ashhurst, Gross, Pirrie and others, consider the fragility of old age, and that which may occur in youth, as pathologically identical. They agree that, previous to the osseous fracture, the patient is harassed with severe and fixed pains; that on dissection the bone is shown to be thickened and of roughened outline; while its body, including the periosteum, is a vascular and spongy mass, infiltrated with fat and bloody matter; a form of fatty degeneration.

These are undoubtedly the conditions in the senile variety. And I may add that I have had a corroborative case under my own observation. About nine years ago a cadaver was brought into the dissecting room of the Chicago Medical College, in the long bones of which I counted, if my memory serves me correctly, seven fractures. The body was that of a woman apparently seventy years old, perhaps even older. It presented no indications of constitutional or other disease, unless old age could be so considered. The anterior ridge of the tibiæ was nodulated as in an old case of periostitis. On dissection a good portion of the body of each long bone was found to be an incongruous mass of brittle, spongy tissue, the central canal and periosteum alike obliterated. The cell partitions leaving large interstices, were filled with an oily substance, and the whole was often friable under the fingers.

Several of these bones are now in the collection of the Chicago Medical College Museum.

From this form, the disease under which my patient suffers, differs in many if not in all essential points. She has no premonitory pains, and the bones at all superficial points have a smooth, hard feel, excepting only at the places of fracture; and, when broken, the crepitation seems much the same as would be produced by rubbing together the broken edges of a piece of china ware. It seems also to differ as widely from the fragility of atrophy; this latter disease resulting usually, I believe, from either an inflammatory action engendered by cancer, rheumatism, syphilis, or a structural change in

tissues contiguous to the bone; in this last case the fragility being merely local.

The term "Fragilitas Ossium," though common, is undoubtedly an unfortunate one; as indeed is any name that instead of giving some distinct pathological condition, only expresses a result that may have had its origin in any one of a wide range of different causes.

My attendance covers now a period of about four years, during which time the disease has progressed uninterruptedly; and I must say, with a feeling of regret, that I am hopeless of better success in the future; only expecting to be of service in treating the fractures as they may occur.

Since writing the above report, I have been again summoned to this patient, in order to dress a fracture of the left ulna. In this instance the injury resulted from a strain brought to bear upon the bone while the patient was playfully holding to the dress of another child.

CONCERNING THE BOWEL AFFECTIONS OF INFANTS.

(Suggested by Prof. N. S. Davis's paper.)

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(Read before the Chicago Society of Physicians and Surgeons, Sept. 13, 1875.)

MR. PRESIDENT AND GENTLEMEN:

I desire at this time to occupy a moment with some consideration of the causation of the intestinal affections of infants, elicited by Prof. Davis's paper read before this Society at its last meeting.

And first, in reviewing the various bowel troubles of children, I believe the gravest error will be committed if these several diseases are considered collectively, either in their etiological or pathological relations, as though they possessed the same pathology and have the same causa-

tion. I hope to remind you that the intestinal affections of young children have marked individuality, and that a comprehensive knowledge of their characteristics only will enable us to treat these diseases rationally.

There is another chance of serious error in founding theories upon the showing of the mortuary tables of a city; this source of error is so apparent as to seriously invalidate the conclusions drawn from these tables. Assuredly, the mortality tables may show, in an indefinite and general manner, that the bowel diseases of infants are more common in the summer than during the winter; but the exacting student will not be satisfied with information so vague, concerning this large class of diseases: he wishes to know if a particular, well-marked disease is more prevalent during a particular state of the weather, in order that, by consulting the meteorological or other records for that period, he may learn whether or not the existing atmospheric and telluric conditions can stand in the relation to that particular disease as cause to effect. It is in this direction alone, that trustworthy information can be obtained; but the present mortality records are utterly valueless for this purpose, because the giving of certificates of the cause of death is not exclusively in the hands of competent, honest practitioners.

I propose to examine briefly the more common of these affections, to see if they do really possess certain etiological distinctive traits; and, for simplicity, I will divide them into two classes. In the first class, cholera infantum and dysentery will stand alone. For the present, one can not question the propriety of classing the cholera of infants among bowel complaints, and it may, in reality, have as much claim to be so classed as typhoid fever has to its place among enteric diseases; but subsequent study may remove both from this category, and call them specific toxæmiæ.

An infant living in the poor and badly drained wards, or the more healthy localities, previously of robust health, or a puny child, is attacked suddenly with vomiting

and discharges from its bowels, accompanied by abdominal pain, a colic, and cramps of the lower extremities. The matter at first vomited is the food incompletely digested; if vomiting continues, greenish mucus is ejected with serous matter. The first dejections are the contents of the intestine; then follow in rapid succession large discharges of serum, and foetid, watery matter containing small flakes and cells of epithelium from the lining of the intestine—"the rice-water dejections." If the onset is severe, the stage of collapse soon follows; the nose is pinched, the cheeks fall in, and the eyes are sunken; the lips are purple, and dark blood remains under the finger nails; the body is limp, and the extremities fall helplessly if raised; the expirations feel cold to the hand; the cutaneous surface is cool and clammy. From this moment, one of three courses is consecutive: first, cessation of the vomiting and intestinal transudation, recovery from the collapse, and convalescence within twenty-four hours; this course is the rarest. Second, death from collapse within forty-eight hours of the onset; next in frequency. Third, recovery from the collapse, follows, but loose dejections continue, and a diarrhoea is kept up by the presence of imperfectly digested food. Serious organic change has taken place in the intestinal lining, which favors the diarrhoea, and from which recovery is slow. In a day or two, the dejections contain disintegrated coagula of caseine from the milk, made green with changed bile, and mixed with some intestinal mucus; constituting the "chopped grass" dejections of some observers. I am persuaded this is the most common ending of cholera infantum, viz., in a diarrhoea which may soon end in death, or recovery after a long convalescence.

It is important to observe that the duration of cholera is short, it is usually limited to forty-eight hours, and ends with the collapse; the diarrhoea which is often a sequence, is from chronic indigestion, and is not essential to the first attack.

All have observed the identity of this disease with the cholera nostras, or morbus of adults; as far as we know, it is the same both respecting its causation and pathology. But, just as typhoid fever may occur without epistaxis and rose spots, even, so may the cholera of infants be modified and its vomiting be absent; on the other hand, just as there can be no typhoid fever without involving the patches of Peyer, so there is no cholera infantum without the sudden transudation of the serum of the blood through the intestine. This is its characteristic, but whether its essential pathology lies in the presence of bacteria or a blood ferment, we can not perhaps declare to-day.

I insist upon the identity of this disease because it has an identity, which it is both practicable and easy to recognize. One fact must have been suggested to you, viz., that the disease is not a common one; still, in the aggregate, many children are destroyed annually by cholera, and that, too, in the country and the populous cities.

Respecting the real causation of cholera infantum, we must confess our utter ignorance, for nothing is positively known of it. If it be accepted that cholera is a specific disease, (and who will say it is not?), then a specific origin must be admitted, for the day has long passed when several distinct origins were admitted for a single specific disease. A notable illustration of this is seen in the recent progress made in the study of typhoid fever, to which I have already alluded. It was formerly thought that filth, and the presence of decomposing animal and vegetable matter, were all that was required to engender this disease, but it is now known that one may live in a village of slaughter-houses, surrounded by foul privies and stinking sties, and yet not have typhoid fever. But once spread the dejections from a typhoid fever patient in that locality, and an epidemic of that disease will be precipitated which will not be limited to the unfortunate inhabitants of that unwholesome region. The develop-

ment of the cholera of infants and adults, is obedient to the same law of extension, and the germs of cholera, if implanted in the proper soil, will bring forth cholera as immutably as the grain of corn brings forth corn and no other grain.

Many observers, with Prof. Davis, have noticed a greater prevalence of cholera infantum during the heated terms, than during the remainder of the year; *ergo*, the heated atmosphere is the origin of cholera infantum. This conclusion is as fully shown to be erroneous, as the filth origin of abdominal typhus; by the fact that cholera is not most common in the hottest climates, and that it not infrequently occurs in our own country at another period than the hottest. The first case of cholera infantum, which I saw with my teacher, occurred early in May, before one hot day had elapsed. As a matter of fact, quite as many observers have remarked the greatest extension of cholera, not during the hottest weather, but when the hot days are interrupted by cool nights, and by an occasional cold, wet day.

Further, we are told that if the degree of heat is not the direct source of cholera, it is something else which is aroused, set in motion by the caloric. One can not oppose this theory with much that is positively known, but there is as much reason for supposing that the dew, the moonshine, the wind, or any other imponderable agent, may be the source of this disease.

In view of the facts, it is clear that the occurrence or extension of cholera infantum, does seem to be favored by some condition connected with the warm semester of the year; perhaps in the same manner as that in which small-pox is favored by winter; but the many instances of the occurrence of these diseases at other seasons, show conclusively that their occurrence or propagation does not depend upon any degree of temperature.

Closely allied to cholera infantum, is the so-called choleriform diarrhoea, to which many infants are subject during the prevalence of cholera, and which attacks

adults, even, while sporadic or epidemic cholera is prevalent. In this affection, the child has been subjected to, and infected by the poison, but is overcome by it to a less degree than one who is the victim of well developed cholera. Nor does this imply an untenable theory, but a feature in infectious diseases that every one recognizes. The disparity in the effect of infectious poisons is explained in two ways: first, that it depends upon the amount of poison taken into the circulation; second, upon the vulnerability of the person. I accept the latter, for it agrees more closely with our knowledge of other intoxications.

The dysentery of infants I have also included in the first class. As the object of these remarks is to define and separate the intestinal disorders, but little need be said of dysentery, for all have admitted for it a specific causation; and that it is not essentially unlike the dysentery of adults. Being an infectious disease which occurs usually in endemics or epidemics, it will not be entertained that any degree of heat can cause dysentery; it is sometimes entirely absent throughout the hottest summers; when it occurs, however, it has sometimes been observed to select the summer months; though its period of most rapid extension is after the occurrence of frosts, and the beginning of cool nights.

Reliable data are wanting concerning the relative prevalence of dysentery; most observers agree in this, however, that it is not a common disease of infants.

These remarks are not to be considered as applicable to entero-colitis, a disease whose morbid anatomy is essentially that of dysentery, but whose etiology differs from that of the latter in this most important particular, viz., entero-colitis is not a specific disease; hence, strictly, it should be included in the second category.

A variety of exciting causes are sufficient to set up an inflammation of the colon with the lower part of the small intestines, but the most frequent cause is the retention of irritating and undigested matters in the colon; and because

the habit of constipation is necessary to the habitual retention of *fæces* in the colon, it follows that those persons who labor under the habit of constipation are more liable than others to this disease. Further, because constipation among infants is rather the exception than the rule, they are not the especial subjects of enterocolitis, as nearly all will admit when its characteristics are recalled: *tormina* and *tenesmus* are prominently present from the first; in a day or two, the *tenesmus* is usually so constant that almost the entire day is spent in straining at stool; the lower sphincters of the bowel soon become paralyzed, the anus excoriated, open and everted. The character of the dejections is of the greatest diagnostic importance; when the bowels have been once completely evacuated, the dejections contain blood and pus, and soon but little else; this is the essential factor; which, if absent, excludes the disease.

I have noticed one striking fact in consulting authors, viz., that no one has accorded any importance to the agency of heat as a causation of enterocolitis; on the contrary, almost every writer says that exposure to cold and damp is an exciting cause of this disease.

In the second class of bowel disorders, I would include those of simple diarrhoea. At the outset, we must admit that it is not scientific to group together a class of diseases whose causation is obviously so dissimilar, and which have nothing in common except the diarrhoea; but, in the present state of our knowledge, we can perhaps adopt no better classification, except with the malarial diarrhoea, which might be included with other diseases resulting from malarial toxæmia; while [the reflex diarrhoea of dentition might, with some propriety, be classed with the neuroses.

The first of the bowel affections I would review, in which diarrhoea is the prominent symptom, is the reflex diarrhoea of dentition. Reflex phenomena are everywhere common enough in medical experience: thus the presence of undigested matter in the stomach and bowels

has not infrequently excited convulsions in an infant, and has been followed by paralysis of a limb. A recent medical journal contains an instance of amaurosis in a child from the presence of a tape worm. These are phenomena due to reflection outward from the bowel, but instances of the opposite reflection are not wanting. I know a lady who has a watery diarrhœa, sometimes amounting to eight dejections in an hour, each time a thunder shower passes over her head. I have seen more than one man whose intense anxiety on the eve of a battle, gave him a violent diarrhœa; under the same circumstances, instead of the rapid intestinal transudation, other men pass large quantities of urine. These are instances of reflection from profound moral impressions, but others are known quite similar to the disease under consideration. Thus it is not uncommon for an adult or child to have a diarrhœa, caused directly by the pain of a felon; or a little child suffers from a finger bruised in the jamb of a door, and has a watery diarrhœa as a consequence.

Two essential conditions seem necessary for the occurrence of this affection: first, the vulnerable subject; second, a profound impression upon, or irritation of some part or region of the body which is well supplied with nervous structures. How fully these conditions are answered in the teething child must be apparent to all.

Besides the profound nervous impression that the growth and eruption of the teeth is capable of exciting, it is important to recall the fact that, simultaneously with the process of dentition, another physiological change is taking place in the intestinal structure itself, viz., a development, an evolution of the follicular apparatus of the intestine, which, in itself, may excite a diarrhœa by inducing an hyperæmia of the intestinal lining.

The great majority of writers have fully admitted this variety of infantile diarrhœa, and I would hardly be warranted in thus enlarging upon it, had not the author

to whom I refer, entirely ignored and repudiated this affection in the paper which has been presented to you. He says, children teeth in the winter as well as in the summer, and that teething cannot cause cholera infantum, because the winter mortuary tables show almost no cholera infantum, while hundreds of children die from this disease during the summer. I am not aware that any one has affirmed that the process of teething is the cause of cholera infantum, but a reflex diarrhoea, which is essentially unlike cholera. Let me remind you, also, that the tables furnished by the Board of Health do not aim at showing the prevalence of a disease, but only the deaths from a disease; and that in an unreliable manner, as we have seen, because of the unreliable data furnished to the Board by promiscuous practitioners. Now as the diarrhoea of teething is early amenable to proper treatment, and it is hoped that but few die from this diarrhoea alone, it is not to be expected that the mortuary tables can inform us of the relative prevalence of this disease at different seasons of the year.

The accuracy of another premise might be questioned by some, viz., that as many children are teething in the winter as in the summer. It has been found that a larger number of births occur during the last two and first two months of the year than at other seasons. If this be true, then the majority of infants are cutting their first teeth nearly simultaneously during the summer season. This is comparatively unimportant, while the great fact remains established, that the process of dentition does provoke diarrhoea in infants, and that, too, in the winter as well as in the summer, a fact which all can verify. But as all are not susceptible to reflex phenomena, so do some children pass through dentition at all seasons without diarrhoea. Moreover, many infants suffer this affection who are not seen by the physician; the mother, recognizing the trouble, says "the baby is teething," and contents herself with rubbing the swollen gum till the tooth comes through, and there is a slight respite until the gum becomes tender again from another offending tooth.

Again, the essayist declared the process of dentition to be like the growth of any bone. I beg that gentleman to pardon me, but the notion seems as preposterous as it is incorrect. What analogy can he recognize between the unfelt and unnoticed consolidation of the epiphyses and shafts at fifteen, and the sickening, weakening process by which the wisdom tooth is erupted at twenty! No such analogy exists in the adult, and still less in the sensitive infant, who is overcome by the painful yet physiological process of dentition.

It is highly probable that the heat of summer, by its relaxing, enervating influences, may favor the continuance of all varieties of diarrhœa; but it must be accepted by you that the disease under consideration is unequivocally the reflex effect of the process of dentition, and can not be set in motion by heat.

Second: The diarrhœa of sepsis or toxæmia. I have not wished to coin a new term for a disease with which you are all familiar; but, following the plan already expressed, we will ascribe to each disease its own characteristics, so far as we are able to do this accurately as in the present instance.

The continued respiration of air which is vitiated by the exhalations of decomposing organic matters, will produce in some persons a toxæmia, that declares itself, among other ways, in a diarrhœa. A common illustration of this, is the diarrhœa which some medical students suffer who imprudently remain too continuously in the dissecting and autopsy room. An interesting fact in this connection is, that the dejections exhale a foul effluvium quite suggestive of that from the cadaver.

Among infants, the usual source of this toxæmia is in respiring the air loaded with exhalations from privies, from the decaying matter left upon the surface, and from stagnant pools of water made foul by receiving slops and offal of all kinds. It follows from this that infants living in poor wards, and in districts whose sewerage is incomplete, should be the special subjects of this dis-

ease; moreover, it is this disease, the prevalence of which seems to stand in a direct ratio with the amount of pavement, or the extent of drainage of a certain precinct—it is this disease, and not cholera usually, that increases the infant mortality of large cities and towns especially.

As the heat of summer favors decay and the dispersion of noxious matters, it is natural that the period of greatest prevalence should be coincident with hot weather. But heat obviously can not be the primary origin of this affection, for let the children be completely removed from this vitiated atmosphere, and this disease will not occur, no matter how hot the summer. It is also well known that if the drain pipes of a house, in a most favorable locality, become obstructed, the infants in that house stand in imminent danger of this disease even in mid-winter.

Third: The diarrhœa from acute indigestion. The infant is profoundly and easily overcome by the effects of matter taken into the stomach, which is itself indigestible or capable of intercepting the process of digestion. In the case of the child whose food is mixed, and who eats fruit and vegetables, ripe and unripe, and improperly cooked meats, the exciting causes of the attack of indigestion are as various as in the adult; but in the infant whose only food is milk, either from the mother or cow, we are forced to look to the milk as containing the offending matter.

An interesting physiological inquiry is raised at once: Can the milk of a healthy cow contain matters almost toxic in their effects upon the infant whose stomach receives it? Most practical men will answer this affirmatively, almost without thought. As a familiar fact, all know that a cow fed on garlic will give milk flavored with garlic. If we were acquainted with no other proofs, this alone shows conclusively that certain matters, taken into the stomach of an animal, are eliminated through her milk ducts; if this is true of garlic, why not of other matters that we are not able to detect. In support of this, I recall one instance, which can be supple-

mented with many others by nearly all present. An infant less than six months old had been fed exclusively upon the milk of one cow, diluted as is recommended, and had suffered a diarrhoea from the first, which had resisted all remedial measures. I inspected the surroundings of the cow stable, and found that, it being mid-winter, the cow had been fed largely upon old, wilted cabbage leaves; the milk from this source was immediately suspended, and the recovery of the infant rapidly followed. Two months later, an accident happened to the vessel holding the daily allowance of the child, and the little one was fed upon the milk from the first cow, for a half day only, but that was sufficient to provoke a diarrhoea the following night, which continued some days.

In the pastures, there are many sources of contamination of the cow's milk; she drinks from little stagnant pools of water upon the surface, that are the receptacles of much decomposing matter and offal, washed in by every shower. You will observe that the time of the greatest danger of contamination of the water in the pastures, and the cow's milk, is during the heated term, when the noxious matters are concentrated by the rapid evaporation of the water. Hence the prevalence of diarrhoea from this cause during the summer, though it frequently occurs during the winter, as in the case cited.

A notable instance of the effects of contaminated drinking water occurred in this city very early during the past spring. Before the breaking up of the ice on the lake, it was said that the overflowing river had cut a channel through the ice in such a direction that the foul river water was driven toward the crib, and, without doubt, became mixed with the water in the city mains. However, in the space of twenty-four hours, I saw three cases of diarrhoea, accompanied by an unusual amount of depression, when I had not seen a case of diarrhoea for weeks previously. Upon inquiry of my colleagues,

I learned that a sudden outbreak of diarrhœa had occurred in their practice also. If there was no apparent increase in infantile diarrhœa at that time, the fact may be explained by remembering that young infants drink but little water ; and that the water perhaps was too slightly contaminated to affect the milk of the mother or cow who drank it.

It is not improbable that the infant who is fed naturally upon the breast, may also have a diarrhœa from vitiated milk. If cabbage leaves eaten by a cow can impart an injurious ingredient to her milk, why may not the mother's milk be thus changed ?

Fourth : In a few instances, a form of gastro-intestinal irritation among children has fallen under my observation, with which I was practically unacquainted. The slightly marked periodicity of the affection suggested the giving of quinine, which I did with benefit. I have since concluded that there is among infants, as I know there is among adults, a diarrhœa dependent among malarial infection, in which an anti-periodic, and especially quinine, seems indicated.

Fifth : I should not omit the familiar form of intestinal catarrh, which is the immediate effect of exposure to cold and damp, and which occurs more frequently during the summer and fall ; because the exposure is more common during those seasons.

The bowel affection, which is, by far, the most frequently presented to the physician, is diarrhœa from chronic indigestion. This is not a disease, *per se*, but the result of many affections. Thus it may be the sequence of cholera or enterocolitis, or the continuance of the reflex diarrhœa of teething, or an attack of acute indigestion may have been its beginning. I had almost said it is not important what the disease was that gave origin to this affection, the pathology and indications are essentially the same. It is now a diarrhœa kept up by the imperfect performance of digestion. Some disease, usually one of the foregoing, has effected some

serious organic change in the bowel, or an atony which does not admit of perfect digestion. The continuance of this diarrhoea seems favored by the depressing influence of hot weather ; during which the little patient becomes rapidly emaciated, and is soon destroyed.

Conclusions : Upon examination separately of the diseases known as bowel complaints, we have failed in every instance to find that the disease was originated by heat ; therefore heat can not be regarded as the source of the several diarrhoeas ; for what is untrue of each of a class is untrue of the whole.

It is unscientific to apply the results of study of one particular affection to the entire class of intestinal diseases, and it is the ignoring of this source of error which has led to such varied and wrong conclusions. Thus, for example, many have noticed that bowel affections are more prevalent in summer, and have concluded that the origin of these diseases is in the heated atmosphere. Another observer, whose field is the poor and foul wards of a city, concludes that the bowel affections of children are caused by foul air. A third has the fortune to see much diarrhoea among teething children, and hence concludes that dentition is the cause of all the bowel affections of infants. A fourth has observed that those children who nurse from a bottle, are often the subjects of diarrhoea, and concludes that artificial feeding is the cause of the diarrhoea of infants. In point of fact, these different observers have been studying distinct diseases.

Finally, the comprehension and rational management of this important class of disorders can only be attained when we recall the fact, that the causes of infantile diarrhoea are as distinct and numerous as these different affections themselves.

Correspondence.

CHICAGO, NOV. 15, 1875.

EDITOR CHICAGO MEDICAL JOURNAL AND EXAMINER—

DEAR SIR:—An editorial appeared in the last issue of the *American Medical Weekly*, which will call forth a protest from many of the medical profession, who desire progress rather than retrogression in medical affairs. The editorial bears the title "Physicians compounding their own prescriptions," and opens by declaring "this is a subject worthy of the most careful consideration of every reader."

The writer admits the truth of *this* statement, if there is any probability of the editor's views being adopted by the profession at large, but with this exception the editor bases his argument upon erroneous statements throughout; he assumes that the apothecary is of no value to the physician, further than as a compounder of prescriptions, also that the physician is equally competent to compound his own prescriptions. In this hypothesis he ignores the fact that the practice of pharmacy involves a peculiar knowledge of *Materia Medica*, quite unlike that required by the physician, as also, the skill necessary to prepare from crude materials the many chemical and galenical preparations now in common use, of which the physician has only a general knowledge, enabling him to properly prescribe them in the treatment of diseases. Without this previous preparation the physician would at once find himself unable to select from the numerous useful and elegant remedies now at his disposal.

The editor also assumes, that whatever pertains to medicine is—by some sort of proprietorship—the exclusive right of the physician to make and unmake. Modesty and justice would indicate the propriety of recognizing the status of so ancient and honorable an art as that of the apothecary, which has been correctly termed "the handmaid of medicine."

If the relative merits of the two professions were to be accurately measured by the rule of medical progress, we are in doubt which would be found most worthy. Certain it is, the apothecary would have been sadly missed, by intelligent physicians, during the last hundred years, in the production of what became necessities for the modern practice of medicine.

The editor, while ignorantly admitting the services rendered by skillful apothecaries, in having made it possible for a physician to carry sufficient medicine in his pocket-case to supply each patient, coolly turns upon his benefactors with the statement that their services are no longer required. He says: "If medicines were administered in crude form, as of yore, it would be simply a matter of necessity that physicians, unable to carry with them a proper supply of medicine, should send their prescriptions to drug-stores." Who but the now useless apothecary caused this marked improvement? Has improvement in medicinal agents ceased to be desirable?

A leading argument used for dispensing medicines at the bedside, is, that each physician is losing annually from ten to fifteen hundred dollars as the profits to druggists. We fail to see how a man can lose what he never possessed, and we also fail to see the justice of appropriating the well earned fruits of labor belonging to the apothecary. If cash receipts (whether entitled to them or not) are to be the only gauge, we might suggest that the undertaker's fees are also within easy reach and they might possibly be increased if no careful apothecary stands in the way to correct errors of omission and of commission.

We have been of the opinion that the proper understanding of diseases and their treatment, was enough for the brain-work of any one man; and we have yet to meet the physician who has mastered the requirements of his profession.

Until we do meet with this order of mental and pro-

fessional attainment we shall object to dispensing with our excellent assistant, the careful and conscientious apothecary, as we think each profession requires for its proper work the talents and labor of separate and equally educated minds. Whenever prescriptions are dispensed by office students from medicines prepared by "wholesale druggists," (as the editor suggests,) we think the death-rate will alarm even the "Chicago Board of Health."

No physician having a "paying practice" would care to involve himself in so much risk and laborious anxiety, while to those who have not yet reached the goal of their ambition, we would say, study and work harder to become a good physician, and leave the work of the apothecary to those best fitted for its duties.

The editor gives a further reason for his proposed innovation, by saying that the subtle and powerful influence of the mind of the physician over that of his patient is destroyed by the intervention of the apothecary. This carries us rather too far into the science of psychology, and treads too closely upon the heels of Homœopathy. We are not disposed to follow him into a discussion of the comparative influence of medicine and imagination in relieving gastritis, but would suggest that an intelligent physician should use both mind and matter, in his treatment of the sick, with such masterly skill, that the dreadful apothecary shall not overthrow him.

Lastly, we should not forget, there are two sides to all questions, and if physicians should generally dispense their own medicines we fully expect to see apothecaries—as of old—become practitioners. They are, doubtless, quite as well fitted to exert a *subtle influence* and to prescribe for a large number of patients, as the physician to dispense his own prescriptions.

Let us be just to each other, and the two professions, nobly devoted to healing the sick, may each aid the other in its beneficent work, and thereby secure the best results for mankind.

Yours in behalf of

MEDICINE.

Editorial.

We greet our readers with a sincere wish that they may all enjoy a very happy New Year. The memory of the long train of magnificent events which have transpired during the century, of which this is the Centennial New Year, should be a joy to every citizen of these United States. A cursory glance at the prominent facts in the social and scientific history of our nation, will show sufficient grounds for their self-congratulation.

During the century we have gained possession of, and brought largely under subjection, the vast domain on which we dwell, with its wealth of fertility and rich deposits of minerals; established a government that is a model and example for nations struggling to be free; produced a galaxy of statesmen, generals, orators, philosophers, poets and scientists, who rival the fame of the classic Greeks and Romans, and whose names will lose their lustre only in the dissolution of the English language.

Two of the greatest inventions of modern times are of American origin: the steamboat, which carries trade and civilization to every quarter of the globe, and approximates the most distant countries; and the telegraph, that swift bearer of thought, which, even more than the steamboat, makes other lands seem near. The material benefit, moral improvement and great enjoyment afforded the human race by these two inventions, are entirely beyond our comprehension.

In agriculture we have taught mankind how to sow, cultivate and harvest by machinery, thus making manifold the capacity of every man who cultivates the soil.

Our nation has furnished many ingenious instruments and devices to lessen the labor of women, and now, in addition to the machinery for spinning, weaving and knitting, we have added the universally used sewing machine. And so we might continue on these general subjects until

a large book were filled, but we refrain, and turn to a rapid enumeration and brief mention of some of the most important achievements in medicine.

Before proceeding, we stop to say that we are proud of our dentists, who are part and parcel of our great profession. American dentists, even before the Franco-German War, were the leading dental surgeons of the great cities of the continent. They were sought by the aristocracy of Paris, Berlin, Vienna, Florence, St. Petersburg, etc., as superior practitioners, and we are not informed that any change has taken place since that great struggle.

In *Materia Medica* we have made a number of discoveries worth special mention, among which is *veratrum viride*. The discovery of the peculiar properties of this plant and its therapeutical application, were made by an American practitioner. Its effects in diminishing the rapidity of the circulation are very remarkable, and form a basis upon which rest its claims as a remedy in inflammation; and from much observation we are prepared to say that in pneumonia, pleurisy, cerebral inflammation, metro-peritonitis, and many other forms of inflammation, *veratrum viride* is a remedy of very great value. We merely mention a few others, as *cimicifuga*, *eupatorium*, *gelseminum*, *lobelia*, *podophyllin*, *prunus virginiana*, *spigelia*, *senega*, *serpentaria*, and *sanguinaria*.

Surgery has been enriched by the researches of American surgeons to a degree that does us great credit.

The war of the rebellion gave the members of our profession a field of vast opportunities, which was cultivated with an assiduity, intelligence and ardor that have resulted in many very important improvements in operations already established, and the introduction of new and valuable processes in surgery.

The profession in Europe have acknowledged the great service the surgeons of the armies on both sides of that great conflict, have rendered to the practice of surgery.

Among other things they have contributed largely to

a correct knowledge of the subject of resection of the joints, the treatment of wounds in the chest, the comparative superiority of out-door or tent accommodations for the wounded, to the confinement of such patients in hospitals, and the preference of coffee to alcohol as a stimulant for soldiers in the field.

In civil surgery a number of important operations have been given to the profession by American surgeons. The late Dr. Mott was the first to ligate the arteria innominate. Dr. Brainard instituted the valuable process of drilling the broken ends of the long bones to promote their union in ununited fractures, with variations to suit the taste of the operator. This has been adopted as a permanent improvement in that embarrassing condition of things.

The reduction of dislocated hip joint by manipulation, is now well understood and practiced as one of the great surgical improvements of our time.

Americans have done much to perfect and establish the operation of excision for caries of the bones related to the hip joint, to the systematic development of the plan of treating inflamed joints by extension, and the use of adhesive strips for extension in fractures.

It is now everywhere conceded that ovariectomy had its origin in America, and nobody seriously competes with our late great Kentucky surgeon, Ephraim McDowell, for the honor of having planned and executed this magnificent operation. He not only did the first successful ovariectomy, but he repeated, studied and worked it out in all its details, and taught it to the profession.

It is now universally acknowledged as a legitimate operation, practiced in all civilized countries, and by common consent its introduction is attributed to its rightful and successful originator, and thus in doing tribute to its author, the surgeons of the world unite in according the highest honors to his country.

This great achievement has hardly a parallel in surgical enterprise, and the completeness of the operation, as

it came from the hands of our renowned countryman, will appear the more remarkable when we consider the fact that some of the most successful operators now believe there has been little, if any, improvement upon his simple but scientific method of performing it, notwithstanding the many ingenious devices added by his successors.

Second only in importance to the original operation, is the practical and philosophical method of enucleating the tumor—taught by an eminent American cotemporary—under circumstances that render its removal otherwise almost impracticable.

The brilliant operation of removing an ovarian tumor by vaginal incision, may be enumerated among the recent triumphs of American surgery, which must eventually take rank as a practicable and legitimate proceeding, under circumstances that will be prescribed by future observation. Vaginal ovariectomy for the induction of the menopause in certain grave forms of chronic ovarian and uterine affections, not amenable to other methods of treatment, is now on trial in this country.

If our memory is correct, the method of rapid reduction of chronic inversion of the uterus, has been perfected if it did not originate in this country, and one of our eminent gynecologists has had better success in the practice of it than has hitherto been attained. The enucleation of intramural fibrous tumors of the uterus, is another operation almost wholly American, and the gynecologists of this country were the earliest to practice it extensively and successfully. The indications justifying a resort to it, the instruments with which to perform it, and all the manipulation and different steps of the operation, have been so minutely and lucidly described and illustrated by two living gynecological surgeons, that it has been divested of many of its difficulties, and become practicable by practitioners of ordinary skill and experience.

The world is also indebted to American surgery for

the only uniformly successful method of curing vesico-vaginal fistula. Although operations and various plans had been devised by many of the gifted surgeons of Europe, it remained for an American to simplify and bring it within the capacity of the general surgeon.

We think it is not too much to say that its successful performance was barely possible in the hands of the most experienced surgeons, while now we hear of its being practiced all over the country, and it is no longer regarded as an operation of extraordinary difficulty. The numerous difficulties, previously insurmountable, have been met and overcome by the indomitable perseverance of our professional compeers in this country.

Growing out of the experiences in that operation is the introduction of silver wire for sutures in certain plastic operations, and now it is used extensively here and abroad.

But the crowning event of the century, if not of all past time, is the American discovery of the means and methods of producing anæsthesia.

There is no discovery in the annals of medicine comparable to it except that of vaccination. It has created an era in the practice of surgery and obstetrics, and added an important therapeutical process in the general practice of medicine. The glory of this discovery is not shared by any but Americans, and it is an additional gratification to us to know that surgical authorities the world over, are returning to *our anæsthetic* as the most safe and reliable.

As now manufactured by several of our pharmaceutical chemists, ether is very nearly as speedy in its effects, and quite as effectual in causing a profound influence, as chloroform, or any of the newer compounds so highly praised.

With a record, feebly indicated by this very imperfect summary, as the result of the first hundred years of our national life, we are justified in expecting for the next century, such achievements as will make us rank with the most advanced of nations in every respect.

Let us then be earnestly thankful for what we have become, energetically devote ourselves to greater effort in the future, and enjoy our New Year in the happy assurance that we have done well.

The editorial management of the JOURNAL AND EXAMINER announce that, even with the unusual addition to the size of the present number, the publication of a large amount of valuable and interesting material is unavoidably deferred to another issue. It is, however, with great gratification that they note the unprecedented application for space in these columns, while they trust that correspondents will not be thereby deterred from further contributions. The past favors of the latter are gratefully acknowledged, with the announcement of the appearance of the papers named below, at dates as early as is found practicable:

On Complication of Labor by abnormally large superior strait, by Dr. J. Suydam Knox, of Chicago; On Cholera, viewed from a novel standpoint, by Dr. Henry R. Rogers, of Dunkirk, N. Y.; On Perforation of the Vermiform Appendix, with death in thirty-seven hours, by Dr. C. W. Earle, of Chicago; On Ergot as a Galactifuge, by Dr. C. H. Leonard, of Detroit, Mich.; The fourth paper on the Microscope in Daily Practice, by Dr. I. N. Danforth, of Chicago; On the Diagnosis and Treatment of Uterine Polypi, by Dr. A. R. Jackson, of Chicago; Reports from the Medical Societies of Chicago, Arkansas State Medical Society, Rock River Medical Society, and the North Central Medical Association; Clinical Reports, Service of Prof. J. P. Ross—two papers furnished by Dr. D. A. K. Steele; Reports from the Board of Health of Chicago; and Reviews of the following medical works: Rutherford's Outlines of Practical Histology, Darwin's Insectivorous Plants, Wood's Therapeutics, Küss's Physiology, Carter on the Eye, Spratt on Gout at the Heart, Ziemssen's Encyclopædia—8 vols., Greenhow on Addison's Disease, Lee's Lecture on Syphilis, and Wagstaffe's Human Osteology.

Clinics.

RUSH MEDICAL COLLEGE.

NEUROLOGICAL CLINIC.

By WALTER HAY, ADJUNCT PROF. OF THEORY AND PRACTICE OF MEDICINE, LECTURER,
AND CLINICAL LECTURER ON NERVOUS AND MENTAL DISEASES.

(Reported by EDGAR SNYDER, Clinical Assistant.)

LOCOMOTOR ATAXIA.

Gentlemen—The patient, William Tonks, whom I here present to you, an Englishman, thirty-six years of age, is, and has always been moral and temperate in his habits, as his appearance indicates. His trade is that of a brass turner, which he has prosecuted continuously for seven years, maintaining a standing position constantly during ten hours daily.

He was sent to this clinic by Prof. Edwin Powell, on the 5th of Sept., 1875, giving the following history of his case:

In 1871 he began to feel low spirited and nervous, with constant dread of falling, which he attributed to weakness.

In 1873 he began to feel pains in the back of the neck and back of the hip joints, shooting downward toward the feet, and soon afterward a sensation as if he had been sitting a long time and his legs had gone to sleep.

He soon found it difficult to keep step with his companions in walking, feeling obliged to occupy his mind with his walking to watch his feet, which were always getting too far ahead of him. He would also lose his balance when stooping to wash his face. His bowels have been habitually constipated, and his urine is evacuated slowly.

His head has troubled him greatly, not so much from pain as with a dull, heavy feeling; he is easily excited, both mentally and physically, and as easily exhausted, especially in hot weather, and finds his mind much occupied with his feelings.

The pains in his lower extremities are less severe when he lies down than when he occupies any other position, but always recur within five minutes after he gets up in the morning.

He has been under various modes of treatment for various imaginary maladies, *i. e.*, for spermatorrhœa, for paralysis, etc., having taken a long course of "electric baths," but has gradually grown worse. To the latter treatment he is disposed to attribute an exaggeration of his dorsal pains, with how much reason it is difficult to say.

Having heard the history of this case, we will proceed to examine its objective features, as they present themselves to us. First, as regards intellection, the patient's expression, bearing, and conversation, enable us to conclude positively the entire exemption of his intellectual faculties from disease. His special sensation, moreover, is perfect; sight, hearing, taste and smell being all quite normal in their manifestations.

As he has been treated for paralysis, and pronounced a paralytic by medical authority, let us see upon what foundation such a diagnosis could rest. We will therefore examine into the function of motility. You perceive that the muscles of his face contract in perfect subordination to the will and the emotions, and that his upper extremities have lost none of their facility of movement nor muscular strength, the grasp of his hand being strong and vigorous.

We will now ask the patient to walk, and perceive that he does so with difficulty, his feet striking the ground outside of the line of gravitation, having been first thrown forward through an arc longer than the required length of the step, and falling backward—illustrating the patient's description of his feet getting ahead of him—strike the ground suddenly and abruptly, first with the heel, then with the sole of the foot, making two distinct sounds, the first a blow, the second a slapping sound the distinctive characters of these two sounds being clearly perceptible to the ear with each successive step.

His motion is a combined roll and plunge, and he keeps his eyes closely fixed upon his feet.

We will now place him in a standing position, and we perceive that his feet are placed much farther apart than is usual or natural, and when we make him approximate the inner edges of his feet, his position becomes unsteady, and when he raises his head or shuts his eyes, he topples over and loses his balance like an inverted pyramid.

Is he paralyzed in his lower extremities? We will now make an *experimentum crucis*. Seated upon the floor, and crossing his legs under him, the outer sides of his feet and legs resting upon the floor, he folds his arms and raises himself to a standing position by the action of the muscles of the legs alone, an experiment which very few men in perfect health could accomplish successfully. The theory of paralysis must be absolutely excluded.

With reference to sensibility, we have heard him speak of pains in his back, in his hips and legs, shooting downward to his feet, and of numbness of his lower extremities, "as if his feet and legs had gone to sleep." He tells us, moreover, that he feels as if there were something soft under his feet; that he feels inequalities in the ground with difficulty.

If we examine the soles of this man's boots we perceive that the heels are quite worn away at their outer and hinder edge, whereas the toes show no signs of wear. This is the result of the peculiar gait, and is so remarkable, that one might almost make the differential diagnosis between this and some other forms of disease by an inspection of the patient's boots alone. Upon removing his boots and socks, we touch the soles of the feet with the pencil, drawing the point quickly along the surface, but he perceives no sensation.

The instrument which I hold in my hand is an æsthesiometer, of which there are several forms devised by different neurologists, this one being that known as Hammond's, having been designed by Dr. W. A. Hammond, of New York, and consists of a small pair of

dividers having a transverse arm graduated. By means of this instrument the index of sensibility can be measured. This index of sensibility is the distance at which two points in contact with the skin may be distinguished; of course it varies with the locality. By applying this instrument to the soles of this man's feet, we find that the points can be distinguished as two, at distances varying from one-half to three-quarters of an inch upon different portions of the surface; at shorter distances apart, he is able to distinguish but one point, and that only when quite a deep impression is made upon the skin.

Here, then, are the first positive, objective evidences of perverted sensibility which we have yet detected: diminished sensibility—*dysæsthesia*—and diminished reflex irritability, exhibited by the insensibility of the sole of the foot to the point of the pencil drawn rapidly across it, which, under ordinary circumstances, would have excited the sensation of tickling, and occasioned a jerking away of the feet from contact with the object. I said the first positive, objective evidences of perverted sensibility, because pain and numbness are subjective purely, and we are entirely dependent for our knowledge in these particulars, upon the feelings of the patient, often very unreliable guides.

You will perhaps ask how these derangements of sensibility, *dysæsthesia*, and diminished reflex irritability, can alone produce the disturbances of motility exhibited in this patient. If you will reflect upon the intimate and necessary relation existing between sensation and motion in the acts of locomotion, the mystery will disappear. In the act of walking, the feet are moved by muscular action, but are guided to their proper positions by the sense of touch, stimulated by contact of the surface of the ground and the sole of the foot. It is by the sense of touch that one is enabled to adapt the steps to the inequalities of the surface over which he walks, and his progression, when once he acquires the art of walking, is

accomplished rather by reflex than by distinctly voluntary efforts. Thus the impression made upon the nerves of the sole of the foot by the surface upon which it rests, is transmitted along sensory nerves through the posterior roots of the spinal nerves to the posterior cornua of gray matter in the cord, and is here converted by cell action into a motor impulse, in obedience to which when transmitted to the muscles, motions are performed. If the stimulus be insufficient, and the influence of the will is required to complete the motion, the impression is transmitted upwards to the centres of consciousness and volition. Now, in the various locomotory actions, numerous muscles and groups of muscles are called into play, each bearing its proportionate share of the labor, in order that symmetry of motion may be attained.

If, therefore, there be any obstruction to or interference with the perfect transmission of every impression through the posterior gray substance of the cord upward, there must result more or less incoördination of muscular action, by means of which locomotion, and the maintenance of equilibrium even, become seriously impaired.

The patient has told us, moreover, that his bowels are constipated habitually, and his urine evacuated slowly and with an effort. The functions of these viscera are mainly reflex, or, at most, consensual, and would be rendered less active by any cause which would induce dysæsthesia or anæsthesia of their mucous linings, thereby rendering them less sensitive to the presence of their contents, and less responsive to reflect the influence of their impressions.

You have observed that the patient, in walking, kept his eyes fixed upon his feet, and lost his balance when they were closed or averted. This is done in obedience to the necessity felt to supplement the loss of the guidance of the touch by the sight, when the communication between the sensitive surface and the nerve centres is intercepted.

Other portions of the nervous system being excluded by the negative evidence, we are led by induction to the

posterior gray substance of the spinal cord as the seat of the morbid process, and to the conductors of sensory impressions as the diseased tracts.

Of the nature of the morbid process we may learn something from the history of the case. The man's occupation has required him to maintain a standing position uninterruptedly for ten hours daily during a number of years, entailing great muscular endurance and extraordinary drafts upon the spinal cord for nerve power to maintain that endurance. For the generation of this great amount of nerve force, a large blood supply was demanded, and we have hyperæmia; but this blood supply is the source of nutriment to all the tissues of the cord alike in their due proportions; now there are not only nerve cells and nerve fibres in the spinal cord, but there is connective tissue likewise, the neuroglia, the cement or matrix, in which these nerve cells and fibres are imbedded; and while there is a due proportion in the supply of nutriment to each of these, there is a disproportion in the waste, nerve cells and fibres sustaining retrograde metamorphosis under their condition of increased activity, to a much greater extent than the neuroglia, which therefore becomes the seat of a hyperplasia.

This view of the pathology of locomotor ataxia is sustained by post-mortem examination, in which the neuroglia is found indurated in scales and flakes, either aggregated, (*sclérose diffuse* of Duchenne,) scattered throughout the continuity of the cord, (*sclérose disséminée*,) or encircling the cord, (*sclérose corticale*.)

I shall detain you but a few moments while I indicate the best treatment for this condition, and in this, as in all other therapeutic theories, we must keep in mind the old maxim, *remove the cause*. Now, what was the ultimate cause, the *primum mobile*, of this long chain of morbid processes? Without doubt, long continued muscular effort. We will therefore remove the cause, and to protect him from the ill consequences of muscular exertion, which has proven so disastrous to him, will direct him to remain in bed, to rest continuously.

But we may do more than this ; we can diminish the blood supply to the cord, and to this end we will direct him to take one-third of a grain of nitrate of silver three times daily, and will, as the case progresses, substitute for it the fluid extract of *secale cornutum*.

Nov. 6th. The patient says he is much better ; is quite hopeful, and his walk bears visible testimony to his improvement.

CHICAGO COLLEGE.

Clinic by PROF. N. S. DAVIS, Oct. 16, 1875.

EPILEPSY.

A boy between seven and eight years of age ; robust in appearance ; face a little flushed ; countenance rather dull in expression, but otherwise looking well, was first presented. The mother of the boy gave his history, as follows : A little more than two years ago, on a warm summer day, he came in from play excessively heated, took a hearty meal, and lay down as if going to sleep. In a few minutes she discovered him in a severe general convulsion.

The spasms ceased in a few moments, followed by fifteen or twenty minutes of apparent sleep, when he awoke and soon appeared to be well. He had no return of similar paroxysms during the next eight or ten months. After this they began to recur without any apparent cause, and have returned more and more frequently, until at present he has from one to six or seven attacks each day. Each paroxysm commences with sudden loss of consciousness, twitching of the muscles of the face and eyes, and general muscular rigidity, arresting the respiration until the face becomes purple or livid ; then relaxation commences, accompanied by irregular, noisy respiration, sometimes forcing frothy saliva from the mouth, but in a few moments the breathing becomes natural, the pur-

plish hue leaves the face, and after ten or fifteen minutes of quiet, he stands up as if waking from sleep, and appears quite well. He is often attacked in the midst of his play, and after recovering his consciousness, returning to it as if nothing had happened, and without any recollection of what had transpired during the paroxysm. The mother says his bowels move generally once or twice a day, and she thinks the urine natural in quantity, though sometimes scanty. His appetite for hearty food is voracious, and he is well nourished. She does not remember that he had any fits or other severe sickness in infancy.

When he begins to recover consciousness after his paroxysms, he rubs his nose and face, which has led to the idea that he had worms, but none have been discovered in his evacuations.

The Professor remarked that this was a good representative of the most common form of epilepsy, as it occurs in young subjects.

But all cases of epilepsy are not alike, either in their origin, progress or results. Some originate in irritation established in some part of the periphery of the sentient nerves, while others are caused by primary irritation in the brain. The first have been called *excentric*, and the latter *centric* or *concentric*.

Mechanical injury to the extremity of some sentient nerve, or its inclusion in the contraction of a cicatrix from previous injuries; irritation of the alimentary canal from worms or indigestible food, and morbid conditions of the sexual organs, are the more frequent causes of excentric cases of epilepsy. Cases arising from the first mentioned cause may occur at any period of life; those from irritation of the alimentary canal are limited chiefly to childhood; while the last mentioned are most apt to be manifested near the period of puberty, and in females the paroxysms generally occur at the beginning or just after the close of the menstrual periods. In cases of excentric epilepsy, the mental faculties do not become

impaired as readily, or to so great a degree, as in cases dependent on primary morbid action in the brain; and the leading object of the treatment is to remove the cause involving the peripheral portion of the sentient nerves. When such cause is capable of removal the prognosis is favorable. Those cases of epilepsy, however, which originate from a primary morbid condition of some portion of the brain, though most apt to begin in childhood, may originate at any period of life; and, when once begun, the paroxysms generally increase in frequency the longer they are permitted to continue. In this variety of cases the mental faculties generally become impaired in direct ratio to the frequency of the paroxysms and the duration of the disease. When the disease commences in infancy, or early childhood, and continues until adult age, it not only reduces the mind to a condition bordering on dementia, but it so retards the nutrition of the anterior portion of the brain as to make the front part of the head both low and narrow. The case before us was probably one of centric epilepsy, and unless it can be arrested, will probably induce all the consequences, physical and mental, to which allusion has been made. The essential nature of the disease is involved in doubt.

That there is a morbid condition of the common motor centre in the base of the brain, either primary or reflex, there can be no doubt. It is probable that such morbid condition consists in a disturbance or increase of the excitability at first, and is therefore functional. But a continuance of such exaltation of the excitability, coupled with the congestion induced by the paroxysms, leads to slow but certain changes in the molecular movements concerned in the nutrition of the part. Hence, long continuance of the disease, generally develops both permanent alterations of structure and impairments of function. In the case before us, as in all similar ones, the indications for treatment are, to allay the morbid excitability of the nervous centre to such an extent as to prevent the

recurrence of the spasmodic paroxysms, and to re-establish healthy nutrition.

Until a recent period, a long list of remedies were empirically used for the cure of epilepsy. The more important of these were nitrate of silver, sulphate of zinc, sulphate of copper, arsenical preparations, and belladonna.

But since the efficacy of the bromides, as sedatives to purely nervous excitability, has become generally known to the profession, they have well nigh superseded all other remedies in the treatment of this disease. It is perhaps true that they may have come to occupy the attention of the profession too exclusively, and to be used too indiscriminately in these cases. In such cases as the one now before the class, exhibiting fullness and richness of blood, voracious appetite and active digestion, it was claimed that digitalis, ergot, and calabar bean, might be useful as adjuvants to the bromides in overcoming the morbid excitability.

The lecturer also called attention to the great advantage of properly regulating the diet of such patients.

He advised the entire omission of meat, as well as tea, coffee, and all alcoholic drinks, allowing the patient only the free use of milk, farinaceous articles, vegetables and fruit. A fair amount of habitual out-door exercise, freedom from over-excitement and mental anxiety, and thorough ventilation of the sleeping room, were also mentioned as matters of importance. Not only were all these things represented as important in the treatment of the disease, but that they must be faithfully pursued for many months, to secure permanent curative results. The following prescription was ordered for the patient, to be given in doses of one teaspoonful each morning, noon, tea-time and bed-time: *R. Potassii Bromid.*, 3 vi; *Tinct. Digitalis*, 3 iv; *Syrup. Prun. Virgin.*, 3 jss; *Aq. fluv.*, 3 iv. M.

If the paroxysms become very much less frequent, the number of doses were to be reduced to three per day. The mother was enjoined to regulate the diet, exercise,

etc., in strict accordance with the foregoing recommendations, and to bring the patient back in two weeks for further instruction.

A NEW OBSTETRIC FORCEPS.

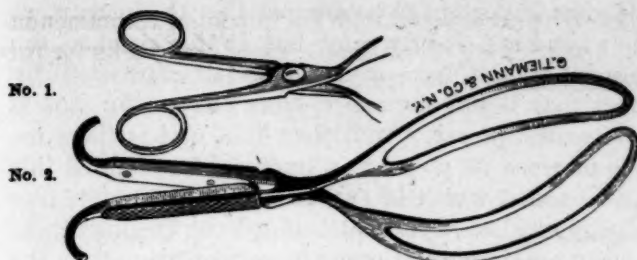
Extract from a paper on the Second Stage of Labor; read before the Chicago Society of Physicians and Surgeons, Oct. 25, 1875.

By EDW. WARREN SAWYER, M.D.,

LECTURER ON OBSTETRICS, RUSH MEDICAL COLLEGE, CHICAGO.

Till this time, I have scarcely used another instrument than the long, double-curved forceps of Simpson: preferring a skilled acquaintance with a single instrument to an imperfect knowledge of many; and because the long forceps are capable of almost all applications. I have always wished, however, for a less bulky instrument, which could be applied to the frequent cases where it is wished to disengage the head from the inferior strait, or to lift it from the perineum; but the ordinary short forceps are not more graceful, and scarcely more easily applied, than the long. Recently, my friend, Dr. Wm. H. Newman, of Denver, Colorado, has given us an instrument which, I must say, does seem to fill the want.

This graceful little instrument is, truly, the baby forceps; it is so small it can be easily carried in the pocket, its entire length being but nine and one-half inches; the length of the handle to the lock is three inches; the length of shank from lock to curve is one inch; the blade is uniformly one inch wide and one-sixteenth of an inch in thickness; it has a pelvic and head curve; the chord of the arc represented by the head curve is six inches in length; the instrument weighs two and three-fourths ounces. The short scissors-handle and the delicate structure of the instrument, give it a less formidable appearance than that of any other forceps with which I am acquainted.



1. Newman's Handles. 2. Sawyer's Handles, with Newman's Blade.

With the thumb and a single finger, which is all that is required in its use, this instrument possesses no compressing power, other than that the uterus invokes through its blades; so that it may be pronounced a safe instrument. I think it no exaggeration to say that it will be impossible with this forceps to do harm, either to the mother or foetus. No operation in obstetrics, not even uncomplicated catheterization, is as simple as the application of this instrument, which can almost be done without the knowledge of the woman. Obviously its use is limited to those cases I have already indicated, viz., when the head rests upon the perineum, or, at most, is in the lower strait.

No one has yet used the instrument as extensively as the inventor, from whose recent letter I extract the following: "My forceps surpass my own expectation. I was a little disappointed in the first two or three cases—I was awkward with the button lock; but now that I have learned how and when to use them, I find them all right. * * * * I have had about twelve cases of labor since I received the forceps, and have used them in nine of these cases. I do not now sit by a slow case, giving ergot, encouraging the patient and assuring the friends around, that all will be right after a while, but I apply the forceps and deliver in from ten to thirty minutes. I am sure that, in at least two of these cases, two or three hours would have been required for the completion of labor."

It is most important to be assured that the instrument in one's hand is perfectly safe; but, in this instance, the usefulness of the forceps is somewhat narrowed by the fact that it has no compressing power; for this is often essential power. To correct this, and at the same time to increase its power as a tractor, I have added this serrated handle, which is curved at the extremity, like the Hodge handle. I have also added the Denman lock, which is more simple and easier of manipulation than the English button lock.

The execution of these changes I have entrusted to the Messrs. Tiemann & Co., of New York, who have accomplished the result with their usual skill.

The danger of keeping flowers and fruits in sleeping rooms is anew illustrated by the following instances, reported by Dr. Breitter, (*Wiener Med. Presse*, 43, 1875): A gentleman had the unhappy idea of making of the branches of an oleander some sort of an alcove in which to sleep; next morning he was found dead. A grocer and his clerk went to sleep in a room in which three boxes of oranges stood, and they were dead by the next morning. A clerk in a store who was to watch at night, laid down with a bag of sassafras under his head, he likewise was found dead in the morning. Another gentleman having some hyacinths in his room, got the most violent headache and felt so drowsy that he could scarcely restrain from sleeping. He at once put the flowers out of the room, opened the windows, and soon after felt easier.

FOR THE REMOVAL OF COMEDONES FROM THE FACE.—Gutzeit recommends the washing and rubbing of the skin with diluted liq. ammoniæ, one teaspoonful to a wine glassful of water.—*Memorabilien*, xx, 7.

Summary of Progress in the Medical Sciences.

I. OBSTETRICS.

1. *On the Management of the Lying-in-Woman.* HIME. (*Obstetric Jour. of Great Britain and Ireland*, Oct.)

The old theory, which represents the lying-in-woman as being in a state, similar to that of a person after an amputation, the uterus being compared to the part operated on, is unscientific and untenable. Parturition is a physiological process—the fulfillment of a natural function, and has no analogy with an operation which is an interference with function. Amputation, whether the result of disease or accident, involves consequences which have no analogue in the process of parturition. The uterus after labor is no more comparable to a stump after amputation, than the uterus after or during menstruation. After natural labor there is nothing comparable to the collapse succeeding a major amputation; there is no fever, no suppression of secretions, no suppuration, or, if pus be present, it is not derived from the uterus at all, but from the vagina or external genitals, in the great majority of cases. The insignificant rise in temperature from 0.5° C. to 0.8° C. (the former in multiparæ, the latter in primiparæ) is due to normal physiological and not to morbid action, being the effect of muscular exertion, increased activity of the lungs, liver and other organs, when relieved from the pressure of the gravid uterus; and is only fleeting. Milk fever is far more talked of and written about than seen, and is of rare occurrence. The rise of temperature which accompanies the commencement of mammary activity, is slight, temporary, and unaccompanied by mental depression or constitutional disturbance of any kind. Operations performed immediately after labor will yield kindly.

A decided alteration, then, is needful in the common mode of treating lying-in-women as patients—confining them to bed for ten or twelve days on a low diet—the ordinary puerperal dietary being such as would certainly not be given to any patient after amputation. Water gruel, barley water, tea and dry toast should be abandoned for milk, eggs, good soup, chickens and other digestible meats, to be given from the first, and, of course, in quantities suitable to the conditions of individuality, want of exercise, etc. Stimulants are decidedly injurious, except in special cases. It is often urged, that, as a large amount of waste-uterine tissue has to be got rid of, low diet should be adhered to; but milk has also to be secreted, and, anyhow, health and vigor will promote excretion and the performance of all vital functions better than a state of debility. Opiates, ergot and other drugs should only be given under necessity. The child should be applied as soon as the mother's state permits; if there be no milk at first, only for a moment or so, to encourage its secretion and the

involution of the uterus. The binder is more of an *euthanasia* than a benefit after the first twelve hours, but not so the early removal into a fresh bed and room, if possible, and this may be done within forty-eight hours. The woman may sit up in bed for a short time from the first, a continual maintenance of the recumbent posture for ten or twelve days being as injurious as it is unnecessary; and most patients may be on the sofa on the fourth or fifth day. Above all things, the medical attendant should see that his directions are carried out, and not trust they will be so, especially as to the removal of soiled linen, etc.; not that its presence, any more than the neighborhood of privies, want of ventilation, etc., will, *per se*, develop metritis any more than typhoid fever: otherwise eight or nine-tenths of lying-in-women must inevitably suffer from it, a result equally certain if medical men could convey the germs of disease with them as readily as is assumed. Cleanliness and ventilation always tend to preserve health and check disease, but they are no more needful for the lying-in-woman than nourishing food. After natural labor a woman is not in a diseased state, and the maintenance of health and vigor will be the most successful means of averting all risks.

2. *Management of Third Stage of Labor.* WALLACE. (*Obs. Jour. of Great Britain and Ireland*, Oct. 15.)

The position of the placenta is most frequently on the middle zone of the uterus, next on the fundal zone. According to its position is the mechanism of expulsion. Smellie and others knew the true mechanism of the expulsion and delivery of the placenta, which has recently been brought to the notice of the profession by Matthews Duncan, Lemser, Caseaux, Leishman, and others, in contradistinction to the descriptions given by Baudelocque, Schultze, etc. The routine practice of the binder, ergot, opium and the cordials after delivery, was condemned. It was especially shown that the binder, as applied with pads, converted an abdominal organ, as is the uterus at that stage, into a pelvic one, and hence caused, instead of prevented, bleeding; and was one of the main factors in producing subsequent uterine trouble, in the way of flexions and displacements.

3. *Medico-Legal Aspect of Abortion.* LEBLONDE. (*Annales de Gynécologie*, Aug. 1875.)

From eleven cases the author deduces the medico-legal value of the integrity of membranes in abortion occurring during the early months of pregnancy.

(a.) When abortion occurs "*en bloc*" (embryo within sound, unbroken membranes), it is probably spontaneous; or, at least, not produced by agents which determine the expulsion of the ovum without implicating the membranes.

(b.) When the membranes are ruptured, but healthy, in all probability abortion has been provoked.

(c.) When the membranes are pathologically altered, no conclusion can be derived from the expelled product, though spontaneous abortion has probably resulted from disease of the ovum.

II. GYNECOLOGY.

1. *Hypertrophy of the Vaginal Portion of the Cervix.* DUPUY. (*Le Progrès Médical*, Oct. 23.)

A primipara, aged 19, had, after delivery, hypertrophy of the cervix, whose projection beyond the vulva was as large as an apple. It was red and ulcerated, the ulcer being as large as a quarter of a dollar. Digital examination revealed a species of callous induration which marked the junction of the body and neck of the womb, the former being of normal size, while the latter was seven centimetres in length.

Under anæsthetics, the hypertrophied portion was removed in about a quarter of an hour, by the *écraseur*, and with the loss of but a few drops of blood. There was no obliteration of the cervical canal, though no measure, were taken to prevent it.

Dupuy refers to a similar operation performed by Warren, of Boston, (*Am. Jour. of Med. Sciences*), but considers the details given of the latter case "too scanty and too obscure to be available in a serious discussion of the subject." As is too common with many French writers, he exhibits a lack of the politeness which is supposed to be characteristic of his nation, by misspelling the name of the American surgeon.

2. *The Genu-Pectoral Posture and Pneumatic Pressure in the Treatment of Uterine Displacements.* HOPKINS. (*Atl. Med. and Surg. Jour.*, Nov.)

The author having treated six cases successfully by the aid of Campbell's pneumatic self-repositor, is enthusiastic regarding its value. "Indebted solely to Dr. Campbell," he says, "for my success in the treatment of the cases here reported, it becomes my duty, while it affords me pleasure, to publicly acknowledge the same, and return him my sincere thanks for the valuable service rendered."

3. *Iodoform in Vaginismus.* TARNIER. (*Jour. de Méd. et de Chir.*, Sept.)

The hyperæsthesia was so extreme in a married woman, thirty-two years of age, married seventeen years, that walking was painful, coitus a torture, and the contact of a stylet with one of the labia minora elicited a cry of anguish.

Insensibility of the vulvar orifice was procured by dusting iodoform over the ostium vaginae and lesser labia. The irritability disappeared for two days, but returned in a milder form. Then the dressing was repeated with a tampon, dusted over with iodoform, inserted between the labia. The results were exceedingly satisfactory, and Tarnier was hence led to recommend the same application in a case of fissure of the anus, which had been treated by astringents, narcotics and dilatation. The applications resulted in cure of the ailment at the expiration of ten months, relief being had much earlier.

4. *Hydrate of Chloral in Uterine Carcinoma.* FLEISCHER. (*Bulletin Général de Thér., Méd. et Chir.*)

The vagina having being cleansed by injections of water, cotton is applied to the carcinomatous surface, wet with a solution of chloral, eight parts to one hundred. The application is renewed every two hours, and, in two or three days, there is less pain and no fetidity of discharge. Administered by the rectum, its effects are completely under control and more prolonged; while it is less constipating than morphia.

5. *Rupture of Uterus—Recto-vaginal Fistula—Spontaneous Recovery.* FONTAINE. (*Virginia Medical Monthly*, Oct.)

A woman, 28 or 30 years of age, had contracted pelvis, and after many hours of labor, F. found the head had receded far up in the pelvic cavity. The breech was felt through the abdominal walls, with the feet and legs impinging upon the maternal liver. A rent had occurred in the right anterior quarter of the fundus uteri, which grasped the middle of the body of the foetus. Craniotomy was immediately and rapidly performed, and extraction effected with pressure from above. Two-thirds of the placenta was removed from the abdominal cavity.

During the operation, fæces gushed into the vagina from a fistulous rent just below and a little to the left of the sacral promontory. It remained pervious, with passage of faecal matter, for several weeks, but on the ninth week the speculum disclosed a rough puckered cicatrix, in the form of a raphé, one inch and a quarter long.

The cure was complete, after most skillful and judicious treatment—rest, carbolic acid injections, medicines to ensure solubility of the bowels, and a nutritious diet.

6. *Laceration of Perineum, Sphincter Ani and Recto-Vaginal Septum.* STERLING. (*Med. and Surg. Reporter*, Nov. 20.)

This accident having occurred, three deep-seated, double ligatures were passed with a curved needle, twenty-eight hours after delivery, the bowels being well evacuated. One was at the posterior fourchette, one at the verge of the anus, and a third midway between the two. Three superficial stitches were also taken. Opiates were administered to secure control of the bowels, but the escape of gas through the rent necessitated passing a silver tube into the rectum, which obviated the difficulty.

In four weeks the cure was complete, the operator taking the precaution to pack the vagina with sponge on the occurrence of the first stool, to avoid strain upon the new septum.

7. *Stricture of the Female Urethra.* NEWMAN. (*Am. Jour. of the Med. Sciences*, October, 1875.)

Of four cases, one occurred at the meatus; another, three-fourths of an inch deeper; still another, seven-eighths of an inch; and a fourth case in-

volved nearly the entire urethra. One was due to syphilis, one to irritating injections in gonorrhoea, one to granular urethritis, and the last to general urethritis occupying the entire canal. These cases were relieved by electrolysis—positive pole in the palm, and a metallic bougie in the urethra, connected with the negative pole. From four to eleven cells of Drescher's battery were used. In one case of double stricture a "carneous plug" was expelled from the urethra, to the great relief of the patient.

8. *Chlorosis with Aplasia of the Female Genitals.* FRAENKEL. (*Archiv. für Gyn.*, vii.)

A woman of strong constitution, twenty-six years old, was chlorotic and had never menstruated. There was marked decrease in the number of red blood globules, but no heart lesion or disturbance.

Her breasts were infantile; her pelvis masculine and contracted in all diameters; the labia majora and hymen were wanting, while the nymphæ were imperfectly developed. The uterus was small, its parietes thin, and ovaries undistinguishable.

Another girl, twenty years old, had scarlatina and cholera in childhood, with first menstruation (profuse) at seventeen, accompanied by fainting, dyspnoea and palpitation. Pallor of the face and cold extremities were marked. There was apical pneumonia with small heart; thin, thready pulse, with a weak impulse. The genitals were those of a girl seven or eight years old; mons without hair; small, infantile breasts and womb.

Fraenkel agrees with Virchow that chlorosis often accompanies genital aplasia, but not always defective development of the heart and aorta. It may result from the aplasia, but is permanently curable when the heart is not of small size. Menorrhagic chlorosis occurs with defective or excessive development of the sexual organs.

III. OPHTHALMOLOGY AND SURGERY.

1. *Two Cases of Aneurisma Arterioso-Venosum in the Orbit.* RIVINGTON. (*La France Médicale*, No. 71.)

In a recent meeting of the Med. and Chir. Society of London, Walter Rivington reported the following case: In July, 1873, a young man was admitted to the London Hospital with a fracture of the skull. Six weeks later he began to hear a blowing noise in his head; the eyeball became slightly prominent, and then a pulsating tumor appeared between the globe and orbital border, chemosis, cedema of the lids and paralysis of the muscles of the eyes ensued. After an ineffectual trial of digital compression of the carotid, and after an unsuccessful injection of perchloride of iron, the carotid was ligated. The patient recovered, but the sight of the eye was greatly damaged by a superficial ulceration of the cornea that came on a few days after the ligation. The doctor diagnosticated an

aneurisma arterioso-venosum, caused by a communication of the internal carotid with the cavernous sinus in consequence of the fracture of the skull.

Soon after this, P. Lansdown published (*British Med. Journal*, June 5,) a similar case. A laborer had the inner half of his left upper lid cut across, by a piece of an exploded seltzer bottle. L., who at once saw the patient, found a bleeding artery and the lid distended by copious effusion of blood into the cellular tissue; the hæmorrhage was arrested by uniting the borders of the wound with a suture, and the patient appeared to be doing well. After six weeks, however, the eye had become somewhat protruding, the lids were swollen and the veins of the conjunctiva appeared tortuous and dilated. And several weeks later a small pulsating tumor was discovered at the inner canthus, below the cicatrix of the upper lid. Over the whole globe one could hear a bruit which disappeared on compression of the carotid. The sight was intact. An instrument was applied by which the aneurism was pressed against the inner wall of the orbit; but this treatment had to be abandoned on account of the pain caused by the compression. From the fact that the retinal veins were dilated like the conjunctival vessels, several surgeons were led to diagnose an aneurism in the depth of the orbit, and advised the ligation of the carotid. But L. preferred the immediate ligation of the aneurismal artery, considering this operation more satisfactory and less dangerous than the ligature of the carotid, even if he had to enucleate the globe to accomplish his purpose. An incision made into the old scar, exposed a small, round, pulsating tumor of the size of a large pea. A large tortuous vein emerging from the depth of the orbit, clung tightly to the anterior surface of the tumor. A communication between the nasal artery and vein had given rise to the deformity of the eye. The artery found, though with considerable difficulty, and separated, was ligated at both sides of the aneurism. On the fourth day the sac was closed, and at the end of one week the globe had recovered its normal position. And now, one year after the operation, the conjunctival as well as the retinal veins show a normal calibre and no difference between the two eyes can be noticed.

2. *Miners' Nystagmus.* TAYLOR. (*Am. Jour. Med. Sci.*, Oct., 1875)

Dr. Chas. B. Taylor describes (*Lancet*, June 12, 1875,) under this name a peculiar malady of which the mines in the neighborhood of Nottingham have furnished him several examples. It is characterized by peculiar oscillating motions of the eyeballs, and has been observed only in adults, and, independent of other ocular defects, in men employed in coal pits. The oscillating movements are caused by alternating contractions of the recti or oblique muscles, and are horizontal or rotatory. This affection appears to be analogous to writers' cramp or similar affections, and is caused by an overtasking of the muscles of the eye. By a great and sustained effort of the patient to see in an imperfect light, they are overburdened, in the course of time give way, and at last, whenever called upon, become, as it were, agitated and

fluttered, escape from the control of the will and perform irregular motions. As a rule, change of occupation and working in a good light are all that is necessary to effect a cure.

3. *Extirpation of the Larynx.* (Am. Jour. Med. Sci., Oct., 1875.)

The first extirpation of the larynx in man, was performed by Billroth (Vienna), in December, 1873; he was followed by Heine (Prague) and Moritz Schmidt (Frankfort). And on July 21st last, Prof. Von Langenbeck (Berlin) excised the larynx with the hyoid bone and a portion of the tongue, pharynx and œsophagus for cancerous infiltration of the parts mentioned. The patient, aged fifty seven years, was kept completely unconscious for two hours, the chloroform being administered through a canula introduced into the trachea below the larynx; above the canula the trachea was plugged with an air-bag, so as to prevent any downflow of blood into the bronchi. Forty-one arteries were ligated, including both external carotids. After the operation the immense wound was simply closed by compresses soaked in a one-third per cent. solution of salicylic acid, and no attempt was made to bring the skin together with sutures. Up to July 28, the patient did well and had no fever.

4. *Treatment of Diphtheria.* THEO. SCHUELER. (Berl. Klin. Wochenschr., 1875, No. 40.)

The writer treated 79 cases, and in order to ascertain the effect of different remedies, he successfully tried chlorate of potassium, carbolic acid and salicylic acid. He lost six patients of 41 treated with chlor. potass., one of 23 treated with carbolic acid, and seven of 15 treated with salicylic acid. These results do not speak in favor of the salicylic acid.

5. *How to Prevent Chloroform Asphyxia.* Dr. J. FLEIBERG. (Berl. Klin. Wochenschr., 1875, Sept.)

His plan is to dislocate the inferior maxillary bone forward whenever any asphyxial symptoms make their appearance. The best way of producing this dislocation is to stand behind the reclining patient, put both thumbs behind the symphysis and the index fingers on the posterior edges of the rami of the bone, then grasp the maxilla firmly and drag it directly forward. If the patient be under the influence of the anæsthetic—and then only it is necessary to resort to this procedure—the condyle will move forward with a perceptible motion and the entire bone is displaced. As soon as this is done the patient takes a long breath and respiration proceeds without any further difficulty as long as the parts remain in the same position. The author has employed this procedure in more than a thousand instances and has never failed to achieve the desired purpose, namely, the use of chloroform without any unpleasant complications. He believes that the root of the tongue and the epiglottis are dragged forward and thereby the occlusion of the larynx and the

consequent asphyxia which is due to the weight of the tongue, are obviated.

The same method has been in constant use by Esmarch since 1866; and Langenbeck employed it constantly during the late Franco-German war, and never lost a case from the effects of chloroform.

6. *A New Method of Controlling the Velum Palati in Rhinoscopic Exploration.* PH. S. WALES. (*N. Y. Med. Record*, 1875, No. 48.)

After giving a brief résumé of instrumental and other means which have been devised (by Czermak, Turck, Voltolini and others,) to control the movements of the palate, the writer continues:

"My principle consists essentially in overcoming the contraction of the palatal muscles by elastic force, and the means of fully carrying it out will be found in an india-rubber cord. The simplest method of putting it in position after having selected one of such a diameter—two millimetres will do—as will readily pass through the inferior meatus into the pharynx without any instrumental assistance, is the following:

"One end is introduced into each nostril, until they both reach the lower portions of the pharynx. At this moment the patient is directed to cough, if the presence of the thread has not already excited this movement; the force of expiration will pretty surely project them into the mouth, when they may be apprehended with the fingers and drawn externally until the middle portion of the cord, which is external, is arrested against the nasal septum. Gentle traction is continued until the soft palate is well drawn forward, when the threads are passed up over the ears, and downwards beneath the chin and there tied, or they may be held by the patient himself. At any moment after the ends of the elastic are secured at the point indicated, the tension of the cord and correlative palatal pressure may be increased by seizing the threads as they pass out of the mouth and gently drawing them forward, until the palatal contraction is entirely overcome, and the area of the pharyngobuccal space ample enough to receive the largest mirror. It will sometimes be observed that where there is very much irritability, the velum palati momentarily contracts, especially at the time when the mirror is introduced, but soon yields to the elastic force of the thread. Should any impediment whatever exist in the nostrils, that the cord cannot be passed by itself, the little instrument I have described below works admirably as a cord carrier. Of course, an expert hand may make use of any instrument that may chance around a catheter, slips of whalebone, or wood.

"The device mentioned above is simple, cheap, and easily managed. It is a thin lamina of soft metal, six inches long and less than an eighth wide, mounted at each extremity with a small ring of an amplitude a little greater than the elastic cord, which having been passed through them, is tipped with small, smooth, oblong fragments of lead. When the instrument is to be used, the cord is drawn through the rings until one of its tips comes against the corresponding ring; slight tension of the elastic will retain the two in contact while the point thus formed is being conducted along the inferior meatus. When the metallic point reaches the posterior wall of the pharynx, the elastic projecting externally is pulled through the exterior ring, and made quite slack so that the instrument may be withdrawn from the nares, leaving the cord in position; a similar proceeding is then practiced upon the other nostril.

"The metallic points of the cord, now in the pharynx, may be easily thrown forward by coughing or hawking, and seized with the fingers and drawn externally. The metallic lamina, on account of its flexibility,

will thus be bent as a bow over the bridge of the nose, and out of the way.

"The discovery of means of amplification of the pharyngo-buccal aperture has occupied my attention for several years. I have had only moderate success until the discovery of the devices I now bring to the notice of the profession.

"Its chief merits are the simplicity of the apparatus, and the facility with which any professional person may employ it in exploring the posterior nares and the pharyngeal cavity. The cord itself may well take the place of Belloc's sound in any case wherein it may be necessary to conduct a thread through the nostrils, as in plugging the nares for epistaxis. Here, however, I employ a little bulb of rubber at the end of a hollow rubber cord, and after the bulb is placed in position through the fauces, it may be inflated by blowing air through its open extremity which projects exteriorly from the nose."

7. *Osteitis of Pearl-Tumors.* C. GUSSENBAUER. (*Langenbeck's Archiv.*; *Allg. Med. Centralz.*, 1875, No. 85.)

This disease, first described by English, was observed in Billroth's clinic, by C. G. on six young men who had been working on mother-of-pearl. They were all six yet in the period of development; and those who continued their occupation were often subject to a recurrence of the disease. The seats of the malady were the lower jaw, scapula, humerus, ulna, radius, femur, fibula, os calsis, cuboideum, and metatarsal bones. The osteitis begins when the youth has been working in the factory for several months. First a slight fever occurs, and a pain which is located precisely in the very seat of the inflammation. After a few days a periosteal swelling appears, which, at first soft, elastic, sometimes fluctuating, and very tender, may afterwards assume the hardness of bone. The tissues covering the affected bone become swollen a few days after the appearance of the periosteal tumor. It is a significant characteristic of these tumors that they are seated in the long bones, always near one or the other end of the diaphysis and never occupy the middle or the epiphysis. The tumefaction gradually increases in size, yet it never terminates in suppuration, but is reabsorbed under the local use of mercurial ointment, warm poultices, and the internal administration of iodide of potassium. The writer ventures an explanation of this peculiar disease and attributes it to an embolic process: the workmen are employed in small compartments, the air of which is filled with the dust of mother-of-pearl; this dust (containing 93.5 per cent. of carbonate of lime and 6.5 per cent. of organic matter,) is inhaled into the lungs, from there it may get into the circulation, and finally happen to stop in the small nutritive arteries of the bones, giving rise to thrombosis infarctus and consecutive osteitis and periostitis. As to the inhalation of the dust, he shut up some dogs for a few days in a box, the air of which was kept loaded with the dust of mother-of-pearl. When these dogs were killed after some time, tubercles (the largest of the size of a wheat grain) of such dust were found in the parenchyma of the lungs.

8. *Results of Antiseptic Treatment.* A. BARDELEBEN. (*Centralbl. f. Chir.*, 1875, No. 47.)

In a paper read before the Berlin Med. Society, Prof. Bardeleben gave an account of 387 cases treated antiseptically during the past three years. Among these cases there were 134 large abscesses, 56 extensive phlegmonous infiltrations, 76 major amputations, 21 major excisions of joints, 23 extirpations of large tumors, 77 complicated fractures. The result of the treatment was that none of the patients died of pyæmia or septicæmia, and that erysipelas though still appearing occasionally, seemed to be of a milder character.

9. *A Rare Tumor of the Mesentery.* A. WEICHSELBAUM. (*Virchow's Arch.* LXIV; *Centralbl. d. Chir.*, 1875, No. 43.)

Between the layers of the very fatty mesentery of a man, 80 years of age, a tumor of the size of the palm of a hand was found. A fluid which proved to be chyle, by chemical and microscopic examination, ran from the cut surface as though it were oozing from a sponge. The tumor showed the structure of a cavernous angioma, but its containing chyle matter proved that its cavernæ communicated with the lymphatic vessels of the mesentery. Originally the neoplasm was most likely a lipoma, in which the cavernous lymphatic spaces were gradually developed; its periphery, at least, was constituted of adipose tissue.

10. *Encephaloid Cancer.* C. V. MOLTEAM, M.D. (*Transac. Kansas Med. Soc.*, 1875.)

In Aug., 1872, a girl of 14, "bumped" her nose against a table. it soon recovered, and was "bumped" against a baby's head in Sept., 1872; a slight swelling followed and remained. In Dec. it grew worse, and by New Years the nose, from the end of the nasal bone to the os frontis, had greatly enlarged. The superior and middle turbinated bones were involved, filling the nostrils. The disease progressed most between the eyes, which were forced forward and outward. By February, 1874, the space between the inner canthi was $3\frac{1}{4}$ inches. By June, the tumor extended from the tip of the nose upward 9 inches, laterally 9 inches, and antero-posteriorly 3 inches. The eyes were forced out of their sockets upon the temples, yet they retained the sight, and the lachrymal ducts were pervious. A month or two previously an abscess had formed in the left mammary gland and opened spontaneously without pain. Her appetite and digestion were good to within a few days of her death, when diarrhœa commenced. She slept well. The parotid, submaxillary and lymphatic glands of the neck became enlarged late in the case, and a tumor appeared near the sternum between the first and second ribs, of the size of a turkey's egg, and she had a slight cough. She died October 1st. The tumor was found made of "apparently elastic fibrous tissue and yellow-white brain-like substance," which fluctuated easily. Weight 5 lbs. The tumor near the sternum communicated with larger tumor within

thorax. The right lung was *solidified* with cancerous deposit; the left lung was more than half full of the same deposit. The mesentery was studded with hard deposits. Microscopic examination revealed cancer cells in all the morbid parts.

IV. SYPHILOLOGY.

1. *Transmission of Syphilis between Nurses and Nurslings.* TAYLOR. (*Am. Jour. of Obst. and Diseases of Women and Children*, Nov., '75.)

This paper is written in the lucid and practical manner, which is an admirable feature of the style of the author. The distinction between specific and other lesions of the mouth in infants is thus given: In syphilis, the coryza, which most constantly accompanies the mouth lesion, is much more severe, and the snuffling much greater, and there will be observed a tendency for the lesions to develop at the angles of the mouth, and there to induce ulceration, which may extend to the integument. This is important. In syphilis, the focus of the inflammation is developed upon the tongue, the fauces and the region named; whereas, in the simple form of sore mouth, the tissues generally, except the throat, are involved and the gums are affected, while they most constantly escape in syphilis. Again, in the simple form of trouble, the sulci between the lips and the teeth are often implicated, and in syphilis it is usual for them to escape.

Taylor also calls attention to two important practical points: 1. The danger of mediate contagion, in children's hospitals and asylums, from the use of an artificial nipple upon which the secretion from the mouth of a syphilitic infant might be retained; and 2. The danger of pronouncing the breast of a nurse free from syphilitic lesions, so long as there is a possibility of the existence of a chancre *in the stage of incubation* upon or near the nipple.

Taylor's article should be placed in the hands of every physician in the country, who is connected with a children's asylum or hospital.

2. *Ulcerating Syphilide and Lupus Vulgaris.* DUHRING. (*Med. and Surg. Reporter*, December 4.)

The distinction between the two diseases is thus made, in a clinical study of a patient affected with the first named disorder:

The recognition of the non-inflammatory character of the lesion, excludes a large class of diseases in diagnosis. It is a neoplasm, and must be due either to lupus vulgaris or syphilis. Were it lupus, we should expect to see some signs of this deposit in the form of papules and tubercles, which are wanting. There would be also dry, flaky desquamation; but the skin is free from scales. The infiltration would not be uniformly distributed (as it is); it would manifest a broken appearance, the sound skin showing between the smaller patches which always go to make up the larger tracts of lupus. On the other hand, the uniform infiltration, the elevation of the

patch, the appearance of the ulcers and their tendency to communicate subcutaneously, the distinct semi-circular lines of demarcation surrounding the patch upon the side of the head, the absence of pain, and other symptoms, all point to a late syphilide. Amelioration and aggravation of the condition have been undoubtedly produced by repeated courses of iodide of potassium. Duhring recommended the use of the latter remedy, in combination with mercury and dilute mercurial ointment locally.

3. *Laryngeal Mucous Patches.* ISAMBERT. (*Le Progrès Médical*, Oct. 9.)

The name should be exclusively applied to lesions which have morphological characters identical with mucous patches of the genitals, mouth or velum. They should be irregularly round or oval; should project slightly above the surrounding tissue; should be circumscribed by a border a little more salient than the centre, which is depressed. The surface is of a grayish-opaline hue, is delicately folded or swollen, and surrounded, in recent lesions, by a more or less intensely defined inflammatory zone, of a brownish hue at or adjacent to the external integument, carmine-colored, when resting upon an internal mucous surface. It rapidly loses these features when it ulcerates, and, in order to be fully recognized, should at least exhibit the elevated rim, the folded aspect and the opaline shade. The lecturer agreed with Fournier, Duploy and Ferras, who consider that this typical form is rarely encountered in the larynx: and adds that in exceptional cases it has been noted where there was no specific diathesis.

The constant temperature and continual humidity of the expired air observed in the larynx, render its lesions analogous to those of the skin, which are subjected to continued cataplasms or indefinitely prolonged vapor-baths. Hence the rarity of recognition of typical mucous patches in this region. Subjected to these conditions their features are altered. The most marked of the cases observed, have been occasioned by coincident laryngeal syphilis and phthisis.

4. *Syphilitic Laryngeal Vegetations and Pulmonary Gummata.* MAUNOIR. (*Le Progrès Médical*, Oct. 9.)

A laundress, 40 years old, had cutaneous syphilides, aphonia, dyspnoea requiring tracheotomy, and pulmonary symptoms, resulting fatally.

The inferior vocal cords were thickened, but not ulcerated. Above them were three or four polypiform, reddish vegetations, nearly as large as peas, which projected beyond the free border of each vocal cord. (Hence the sinuous chink observed, ante mortem, by the laryngoscope.) The tracheo-bronchial membrane was reddened, and smeared with viscid adherent mucus.

Small, rounded, yellowish-white tumors, with a fibrous zone at the periphery, were found at the summits of the lungs—especially the right—imbedded in sound pulmonary tissue. Open-mouthed vessels and bronchioles were visible in the centre of each. Some were soft and caseous. One was connected with a small vomica. Some were firm, opaline and

semi-transparent. They differed from tubercles, in their definite outlines, their intact pulmonary bed, and the patent central canals—vascular and bronchial.

5. *Syphilitic Liver.* THOMPSON, HENRY. (*Lancet*, November, 1875.)

Post mortem, the viscus was found to be displaced downwards; bands of adhesion united it to the parietal peritoneum, all vascular, the vessels running from the liver to the abdominal wall. The hepatic lobes were broken up by deep furrows into a multitude of irregular knobs, the entire surface being more or less granular. The capsule presented unevenly distributed thickenings. There was also well marked fibrous thickening at the bottom of the furrows, and along the course of the larger portal canals; and here and there were seen small tracts of caseous character in the midst of the denser material. The liver substance throughout was permeated and toughened by this fibrous change, so that it was nearly impossible to distinguish any individual lobules—the general appearance being that of fine granules of various sizes and shades of color, interspersed with large masses of a dark-green tint. The organ weighed 56½ oz. There was no dilatation of the interstitial bile ducts; in fact, their presence could hardly be ascertained. The hepatic and common bile ducts were also free.

Iodide of potassium utterly failed. Sir Henry Thompson adds, with great wisdom, that when the characteristic changes in the liver are well pronounced, iodide of potassium will no more undo the mischief than it will abolish a cicatrix.

6. *Rapidly Malignant Syphilis.* GUIBOUT. (*L'Union Méd.*, 61, 62, 1875.)

'Syphilitic rupee with continuous fever, great prostration and weakness, serious functional disorders, and extensive ulceration, all occurred within six weeks of the primary lesion, without the intervention of the ordinary milder syphilides.

These cases are sufficiently common to require attention. They usually result from unrecognized or mal-treated chancre.

7. *Syphilitic Placenta.* MACDONALD. (*Obst. Jour. of Great Britain and Ireland*, Oct.)

It may be mistaken for fatty degeneration (Kilian and Robin), but it is easy to recognize constitutional syphilis in a dead-born foetus, even if macerated. There is a band of tissue between the bone of the shaft and the cartilage of the epiphysis of the long bone, in a condition of inflammatory irritation. It is bounded by very irregular outlines, both towards the cartilage and towards the true bone, and consists, according to the advancement of the lesion, either of (a) hypertrophied cartilaginous cells, greatly increased by proliferation and prematurely infiltrated with earthy matter; or (b) of the same, combined with premature sclerosis of the intercellular tissue, and premature osteogenic formation within the cartilage, and arrest of true bony transformation; or (c) of the higher

degrees of inflammation, softening and interrupting the connection between bone and cartilage, with inflammatory exudation, or even suppuration. The red or grayish-yellow band is readily seen, and the hardened prolongation of premature calcified cartilage easily felt and seen.

In the placenta, if the father is primarily affected, there is cellular hypertrophy and multiplication of the villi ("Disfiguring granulation-cell disease"—Fränkel), involving contents, epithelial mantle, and wall of included vessel, proceeding outward from the vessels, the rows of connective tissue nuclei suggesting Haversian canals. In consequence of the accompanying increase in size and weight, the vascular destruction and hypertrophy are soon followed by atrophy and abortion of the villus. Congestion and extravasation are likely to attack the unaffected portions of the placenta, and suffocation of the foetus ultimately results.

If the mother is primarily affected, there is increased growth of the connective tissue framework of the maternal placental decidua, with enormous hypertrophy of its large cells, leading to destruction of the villi by compression. The endometritis and placentaris nummosa of Virchow, Slavjansky, and Kleinwächter, are probably syphilis of the maternal placenta.

If both parents are primarily syphilitic, or become so early in pregnancy, the conditions described above occur conjointly.

8. *Syphilis of the Placenta.* FITZ. (*Boston Med. and Surg. Jour.*, Dec., 1875.)

The placenta exhibited a thickened and opaque uterine surface, which presented yellowish patches, alternating with others of a grayish-white color. Beneath these were nodular masses, corresponding in color, and of a relatively homogeneous appearance, the yellow nodules being more dense than the gray ones. The membranes were also thickened, opaque in spots, and of a yellowish color. The changes in the placenta were due to a thickening and increased formation of the placental villi, with cell formation and an eventual fatty degeneration.

These changes indicate paternal infection of ovum, without maternal syphilis (Fränkel). The bones of the foetus (five months old, and macerated) confirmed the diagnosis. There was no sharp dividing line between the bone and the cartilage. There had been frequent previous abortions and probable syphilis of father.

9. *Prognosis in Syphilis.* HUTCHINSON. (*Lancet.*)

The author calls attention to a fact which so many are slow to appreciate, viz., that it is impossible to assure a patient that he has not contracted syphilis, until at least a month has elapsed after suspicious intercourse. It must be remembered that induration may not occur for weeks. If contagion were effected with as much care as to purity of the virus as is exercised in selecting lymph for vaccination, then the result might be confidently predicted. It is, however, not so; and the introduction of pus

(chancrous or other) with the infecting element, influences the results, immediate and deferred.

There is nothing new in all this, but the profession cannot be too often warned of possible errors on this point.

10. *Treatment of Primary Syphilis by Lewin's Method.* SEELEY. (*Nashville Jour. of Med. and Surg.*, Oct.)

The patient had well marked indurated chancre. From the 3rd to the 28th of May, S. injected hypodermically, with tolerable regularity, ten drops of Lewin's solution of corrosive sublimate. There was excessive gastric irritability (relieved by rest, ice to the spine and mustard cataplasms), and the characteristic indurations at the site where the needle entered. Cure was apparently perfect.

11. *Efficacy of Iodide of Potassium in Syphilis.* MCSWEENEY. (*British Med. Jour.*, Sept.)

Five grains of the potassic iodide, combined with three grains of carbonate of ammonia, are as efficient as eight grains of the potassium salt administered in the ordinary way.

12. *Treatment of Phagedenic, Gangrenous, Venereal Sores.* SIMMONS. (*Med. Record*, Sept. 11.)

The diseased parts are immersed continuously in hot or warm water. In one case, where there had been loss of labia, fourchette, clitoris, and part of the urethra, the fetid pus from the immense irregular cavity became laudable after thirty-six hours' use of the sitz-bath and cushion. Relief was so great that the patient refused to leave the bath longer than was actually necessary. After the desired change was produced, the applications were made only during alternate hours.

Several cases, with equally favorable results, are reported.

13. *Treatment of Papulo-hypertrophic Syphilides.* CHÉRON. (*La France Médicale*, Nov. 10.)

These lesions are painted with a solution of nitrate of silver (fifty per cent. strength), and then touched with the zinc crayon, the operation being repeated every second or third day. Nine days usually suffice for complete removal.

14. *Tayuya—a new Antisyphilitic.* UBICINI. (*Bulletin Gén. de Thérapeutique*, Sept.)

The remedy was found to be efficacious among the Brazilian negroes. Martin discovered in a specimen: green resin; some yellow, unctuous matter; a very bitter, highly aromatic brown extractive; tannin; starch; mucilage; volatile matter; magnesia; alumina; lime; iron; potash and woody matter. The mineral substances were exceedingly abundant, and precipitated at once from a strong solution.

15. *Syphilis Variously Treated in Pregnancy.* WEBER. (*Am. Jour. of Med. Sciences*, Oct.)

(A.) Interference with the digestive tract predisposes to untimely birth. (B.) Exclusively local treatment resulted in 20 per cent. of premature labors. (C.) Local treatment, combined with inunction, left the pregnancy undisturbed. (D.) Inunction, accompanied or followed by iodine, was less satisfactory. (E.) Treatment by iodide of potassium and corrosive sublimate, was attended by 15 per cent. of premature births—in cases where the first named remedy alone was employed, 42 per cent. (F.) The long duration of treatment was less unfavorable than irritation of the intestinal tract. (G.) The period of commencing general treatment does not appear to influence the occurrence of premature births. (H.) The stage of development of syphilis does seem to exercise such an influence.

These deductions are based upon observation of 129 pregnant women, suffering from syphilis.

V. PRACTICAL MEDICINE.

1. *Pneumatometry.* ELSBERG. (*N. Y. Med. Jour.*, Nov., 1875.)

Pneumatometry is the method of measuring the force of expiration and inspiration. For clinical purposes, the maximum force is measured. This is nearly constant for the same person, and the value of the method in diagnosis consists in observing the deviation from health of either inspiration or expiration, and the relation of the two. The instrument used for the purpose consists of an U shaped glass tube, partially filled with mercury, to one end of which is attached a rubber tube connected with a mouth-piece. As the patient inspires from or expires into this tube, the mercury rises or falls in the proximal arm of the glass tube—the amount being told by a scale fixed to the tube.

In health, the average of maximum inspiratory power for the male sex, is expressed by a column of mercury of 86 millimetres; of expiratory power, 110 millimetres. For the female sex, these quantities are expressed by 50 and 70 millimetres respectively. The expiratory power is thus seen to be normally greater than the inspiratory. This is due to the relations of the muscular power used in respiration, the elasticity of the lungs, and "the obstacles presented by the walls of the chest, its contents and their surroundings." In inspiration, "the muscular power forms the positive, and the elasticity of the lungs and the obstacles the negative, factors; while in expiration, all these three factors are positive, with only a relatively small negative one from expiratory obstacles."

Pulmonary emphysema may be detected in its incipient stage, "while yet all other methods of examination fail." The normal relation between the expiratory and inspiratory pressure is found to be inverted; the positive (expiratory) pressure is smaller than the negative (inspiratory). In the slighter forms of the disease, there is only a lessened expiratory pressure; in the more severe forms, the inspiratory power is lessened as well.

Asthma and bronchitis, especially chronic and recurring forms of the latter, are frequently accompanied by a condition of emphysema, and when this is the case, pneumatometry readily detects it. In phthisis, the pneumatometer shows an insufficiency in inspiratory pressure, while the expiratory, "for some time almost normal, is more slowly lessened, and remains larger than the inspiratory." Herein is a difference from emphysema and bronchitis, so great that it is of much value for differential diagnosis in doubtful cases, especially of incipient phthisis. In pneumonia and pleurisy, "similar pneumatometrical conditions obtain," as in phthisis pulmonalis.

2. *Frontal Headache.* BRUNTON. (*The Practitioner.*)

"The administration of a brisk purgative or small doses of Epsom salts thrice a day, is a most effectual remedy for frontal headache combined with constipation; but if the bowels are regular, the morbid processes on which it depends, seem to be checked, and the headache removed, even more effectually by nitro hydrochloric acid, or alkalis, given before meals. If the headache is immediately above the eyebrows, the acid is best; but if it is a little higher up, just where the hair begins, the alkalis appear to be more effectual. At the same time that the headache is removed, the feelings of sleepiness and weariness which frequently lead the patients to complain that they rise more tired than they lie down, generally disappear."

3. *Progressive Pernicious Anæmia, or Anæmatosis.* PEPPER. (*Am. Jour. Med. Sciences*, Oct., 1875.)

Prof. P. reports three cases of this disease.

Case I., was that of a single woman of 26 years, a stout dressmaker, with good family history, who had intense anæmia; irregular fever, uncontrolled by quinia; more or less œdema, gastric disturbances, palpitation, hæmic murmurs—"a humming roar audible over the whole skull," especially strong over the longitudinal and lateral sinuses"—profuse hæmorrhages from the gums, and, later, somnolence, coma and death. There was no albuminuria, no enlargement of spleen or lymphatic glands, and no evidence of organic disease of any organ.

Case II., was that of a man aged 57, who had through life had vigorous health. The disease was ushered in, after some months of somewhat impaired vigor, by a slight sunstroke; jaundice and rapid failure in strength and progressive anæmia followed. There were palpitation, nausea, vomiting, slight œdema, faintness on rising, hæmic murmurs, slight fever, slight emaciation, finally delirium and death. There was no leukemia or affection of the lymphatic glands. There was found slight enlargement of the spleen, and fatty degeneration of the heart, liver and kidneys.

Case III., was that of a man, an iron founder, slight and never vigorous, aged 50, who had had several times attacks of hepatic colic, with a chronic follicular catarrh of the intestinal canal, which had continued for a number

of years. He had suffered for years from a chronic psoriasis of the legs, trunk and arms. The next morning, after a hard day's work, he felt weak; from this time there was progressive anæmia and debility, a tendency to syncope, transient œdema, hæmic murmurs, dyspnoea, irregular fever and somnolence. Later there was wandering delirium. There was found a large calculus in the gall-bladder, with suppuration of the sac; the solitary follicles of the intestines were enlarged; the heart, liver and kidneys were in a condition of fatty degeneration; the spleen was slightly swollen; the lymphatic glands were unaffected. The marrow of the bones (radius) was made almost wholly of "granular cells, round or nearly so, but varying in size from 1-8500 to 1-2000 of an inch. Many of these cells had a single distinct spherical nucleus; a few were very granular, and fewer contained a single drop of fat.

In all the cases there had been found a great deficiency of red corpuscles of the blood, but no increase of the white ones—the blood had, moreover, an appearance of disorganization. In the first case, death occurred in about a year from the beginning of the attack; in the second, in eleven months; and the third in three months.

The author, after a lengthy discussion of the cases and the disease, concludes that, (1) progressive pernicious anæmia is identical with the idiopathic anæmia of Addison, and is not a new disease; (2) it is in reality the medullary form of so-called pseudo-leukemia, (Hodgkin's disease); (3) the primary and essential lesion in this and analogous conditions appears to be an affection of the blood-making tissues—spleen, lymphatic glands, marrow of the bones—causing defective blood-making. A better name than any heretofore in use ought to be chosen for it, and he suggests *anæmatosis* (*a*, privative, and *αἷμασις*, formation of blood); (4) the changes in the blood consist of great reduction of its mass, diminution of red without increase of white corpuscles; (5) the other lesions, fatty degenerations, etc., are secondary, and depend on the blood changes; (6) the symptoms are, in great part, explicable by the state of the blood and heart; (7) the disease, once established, is fatal; (8) the remedies affording most relief, are cod liver oil, arsenic and phosphorus; (9) transfusion is only capable of doing temporary good; and (10) to be safely employed, the amount of blood transfused should be small, and introduced slowly, and repeated at suitable intervals.

In the cases reported, all treatment was of no avail, including the transfusion, twice performed in the last case.

4. *Typhoid Fever, from Drinking Water.* BROWN. (*Phil. Med. Times*, Nov. 13.)

In Mansfield, Pa., students of the Normal School began to have typhoid fever in Oct., 1874. By Dec., 53 had been attacked. There were treated in the school buildings 28 cases, 3 of which died; at their homes 25 cases, 5 of which died. The clinical history of the cases did not differ from that of ordinary, severe, typhoid fever. There was early

diarrhoea in all the cases treated by Dr. B. (38), as also the rose rash in the second and third week. "All the patients vomited large quantities of bile during the period of high temperature."

The water supply of the school was from an artesian well, 140 feet deep. Near by was a surface-well, 20 feet deep; 40 feet from this, down the hill, was a large privy vault that had been used for 12 years. This vault was emptied by a sewer; a few feet below the vault, this sewer was entered by a drain extending from near the surface-well, to carry off surface-water from around the well. Many of the students preferred the water from the shallow well. A man working about the buildings who drank from this well, was attacked with the disease, although he resided at a distance. None of the hired help had the fever except the only person who drank habitually from the surface-well.

Prof. Latimer, of Rochester, found the water of the artesian well contained only "a small quantity of mineral matter," but that the water of the surface-well "literally swarmed with fungoid organisms, and also contained many animalculæ, besides much *débris* of both these classes of organisms in various stages of decomposition." Chemical tests gave strong evidence of sewage contamination. Dr. B. thinks the sewage from the vault had gradually backed up the well-drain, and finding its way through the soil, had contaminated the water which did the mischief.

5. *Three Cases of Dilatation of Lymphatic Radicles.* DR. C. HANFIELD JONES. (*Lancet*, Oct., 1875.)

The first case was that of a young man with grave disease of the kidneys, in which great quantities of albumen and some slender homogeneous and granular casts were voided with the urine. Both lower extremities were cedematous, the left most so, and there was for a time dullness over the lower right back. The abdomen "in both flanks" was markedly dull, the left being most affected, and being lessened on turning on the right side.

At the end of three months, the skin of the left thigh presented many "plexiformly arranged streaks" running upward. They soon increased in size so that they occupied a considerable part of the space of the surface of the thigh and buttock, but not passing above Poupart's ligament. Soon the same appearances, but in less degree, showed themselves on the opposite thigh. The man recovered.

The second case was in a man of 45 years, far gone in tubercular consumption, in whom just before death there appeared enlarged lymphatics similar to those of the first case, extending from the toes to the ankles.

The third case was in a young man with Bright's disease, who died from the affection at the end of eight weeks from the time of attack. Two weeks before death there appeared upon the surface of the lower abdomen and thighs many enlarged lymphatics converging toward Poupart's ligament. In a few days they became enormously distended with a reddish fluid.

In this case there was found, *post mortem*, a quantity of puriform fluid in the abdominal cavity; there was evidence of a slight peritonitis; the

kidneys were very hyperæmic; the lymphatic glands of the mesentery were enlarged, but the glands near Poupart's ligament in the groin were not enlarged, nor were the receptaculum chyli or thoracic duct dilated.

The vessels enlarged in these cases, were not the ordinary subcutaneous, lymphatic vessels, for these run beneath the corium of the skin; the vessels in these three cases were situated *in* the corium or between it and the epidermis. They appeared "to be rather dilated, lymphatic radicles, than actual vessels."

Some of the fluid was drawn from the cavities in the first case, and it had all the appearance of lymph, a "clear alkaline fluid, devoid of corpuscles, slightly albuminous, sp. gr. 1009." The fluid must have been in rapid motion, as from a single needle puncture the flow was so great that two clean sheets were saturated, and $1\frac{1}{2}$ oz. of the material was collected.

Dr. J. is unable to fully account for the appearances described, but thinks the most rational theory of explanation is that, as there was in all the cases more or less venous obstruction, "as the return of blood was barred, there was no other channel for the fluid effused from the capillaries to take but the lymphatics."

VI. THERAPEUTICS.

1. *Salicine in Diarrhœa.* VAIL. (*N. Y. Med. Jour.*, Oct., 1875.)

After detailing a few cases of severe diarrhœa treated with marked success with the above named drug, the writer remarks :

"It combines the tonic element of quinine with strong astringent properties. In cases of enteric atony, especially in chronic cases, from chronic diarrhœa or other debilitating diseases, where quinine is inadmissible from its tendency to irritate the bowels, in my hands salicine has given the most flattering results. My experience has been small, and it is the design of this article to draw attention to this subject, that we may have further light from more experienced quarters. So far, our authorities, as the Dispensatory, Stillé, Flint, and West, make, if any, the most cursory note of salicine as a medicine. Only in Reynolds's 'System of Medicine' does Dr. Aitken mention it as 'a remedy which has been found very valuable in cases of chronic diarrhœa, where opiates and astringents have entirely failed.' I always prescribed it in powders, to be given in sugar and water. You will be surprised how readily it will be taken by the little ones; much more readily than quinine, though more bitter. It seems to be a purer bitter, and one much more acceptable to the stomach. In no case was it ejected till the system seemed satisfied. It is my rule to continue its administration for from two weeks to two months after the subsidence of the disease proper, according to the time the disease has existed. The dose corresponds with that of quinine."

2. *Anti-Neuralgic Properties of Essence of Mint.* DÉLIOUX DE SAVIGNAC. (*Am. Jour. Dent. Sci.*, Nov., 1875.)

The essence of mint exerts a special influence upon the sensory nerves, which diminishes the abnormal vivacity of their reactions when these become exalted in painful affections. It is comparable, in this respect, to chloroform, ether and camphor. Though its high price will prevent its being extensively used in the pure state as an anti-neuralgic and anti-rheumatic, it may be employed in alcoholic solution as an application in the form of liniment; and camphor, chloroform and laudanum may be added to it with advantage in various cases. Dr. Savignac has found it extremely useful in relieving the pain of pruritus; in alleviating, when employed in the form of injections, the miseries of vulvo-vaginal hyperæsthesias, vaginismus, and neuralgias of the head and face, which are best treated by making a small ball of wool of the size of a nut, which has been made to imbibe a few drops of the essence, and rubbing the painful part with it gently. It is then to be covered with a larger piece of wool, and the whole kept in position for a few minutes with the palm of the hand. The success of these external applications of the essence of mint in neuralgias of the head and face, and even in cases of congestive cephalalgia, has been both prompt and permanent. He adds, however, that the cause of the pain must be local for the cure to be permanent, since, if it be dependent on hysteria, or be connected with intermittent fever, or with gastric derangement, the primary cause must first be removed. The remedy seems to have been long known in China. For intermuscular and parenchymatous neuralgias, which are especially obstinate, he has tried the following as a hypodermic injection: Hydrochlorate of morphia, 1½ grains; mint water, 140 minims; alcoholate of mint, 15 minims. Mix.

3. *Administration of Medicine to Infants Through the Mother's Milk.* LEWALD. (*Lyon Médicale*, Oct., 1875.)

The elimination, by the milk of the mother, of iron, bismuth, iodine, and its compounds, arsenic, lead, zinc, antimony, mercury, alcohol, and several narcotics, is here considered. Numerous experiments were made in the goat. The principal conclusions arrived at are: 1. A larger quantity of iron can be administered to the infant through the mother's milk than by any other means. 2. Bismuth likewise is eliminated by the milk, but in very small quantity. 3. Iodine does not appear in the milk until ninety-six hours after taking it; the iodide of potassium, given in doses of forty grains *per diem*, appears four hours after ingestion, and continues to be eliminated for eleven days. 4. Arsenic appears in the milk at the end of seventeen hours, and its elimination had not ceased after sixty hours. 5. Though one of the most insoluble preparations, the oxide of zinc is nevertheless eliminated by the milk, and it is probable that this is also the case with the other preparations of zinc; fifteen grains of oxide of zinc were found in the milk at the end of from

four to eight hours, and it disappears sooner than iron, because no trace of it could be discovered after fifteen or sixteen hours. 6. The elimination of antimony is an undeniable fact, and it is well to bear this in mind during the period of nursing. The same holds true in regard to mercurial preparations. 7. That alcohol and the narcotics are eliminated by the milk has not been demonstrated. 8. Sulphate of quinine is eliminated very easily; a child suffering from intermittent fever was cured by administering quinine to the nurse.

4. *Treatment of Chronic Tumefaction of the Spleen.* MOSLER, of Greifswald. (*Deuts. Arch. f. kl. Med.*; *N. Y. Med. Jour.*, Oct., 1875.)

Provided certain precautions are taken, injections into the spleen can be made without danger. It is first necessary to diminish the quantity of blood in the organ, and this object is attained by giving an hypodermic injection of hydrochlorate of quinine. For some time before the parenchymatous injection is made, ice is applied over the spleen, and as soon as the organ has contracted so that its inferior extremity lies against the abdominal wall, the injection can be made; if it causes much pain, it can be followed by an injection of morphine. Carbolic acid (1-200) was first employed; in another case, Fowler's solution; and these injections did no harm. In one of the cases, the diminution of the volume of the organ was considerable. One cubic centimetre of a mixture of Fowler's solution (1-10) was injected several times. The pain was relatively moderate, the cold being kept applied over the splenic region. This treatment caused complete cure in a patient after all other means had failed.

VII. PHYSIOLOGY.

1. *A Method of Observing the Circulation in the Frog's Lungs.* F. HOLMGREN. (*Centralbl. f. Chir.*, No. 39, 1875.)

The frog (*rana esculenta* is the preferable species) is poisoned by several small doses of curare, so as to be paralyzed for two or three days. A broad fold of the skin is taken up near the arm pit, and a curved needle, armed with a silk thread, is carried through the basis of this fold, where-upon the thread is tied. In the same manner a ligature is applied to the skin near the hind legs. Between both ligatures a sufficient portion of the skin and the thin muscular layer is removed, when the inflated lung will protrude through the wound, and soon collapse.

The frog securely fastened upon a board in the well-known manner, the lung is put into a chamber which fits over the hole in the table of the microscope, and is closed at both ends by glass, to allow the light to pass from the reflector through the chamber into the tube of the microscope. If now the lung is inflated again through a rubber tube, a most beautiful view of the circulation can be witnessed.

2. *The Vaso-Motor Nerves and their Action.* PROFESSORS MARIUS AND VANLAIR. (*Le Progrès Médical*, Oct. 2, 1875.)

1st. The vaso-motor nerves are a part of the vegetative nervous system; they have their principal origin in the spinal cord and medulla oblongata; they arise, accessorially, from the sub-medullary portion of the encephalon, from the ganglions of the sympathetic situated upon the cord, and are distributed to the periphery along the course of the nervous fibres.

2nd. In passing from the medullary axis to the lateral roots, the vaso-motor nerves pass along the anterior branches; they pass along to the vessels, either uniting themselves with the spinal and cranial nerves, or accompanying the arteries.

3rd. The vaso-motor filaments are distributed to the muscular coat of the vessels, and form, at their termination, numerous plexuses, provided with microscopic ganglions.

It is not certain that the nerve fibres penetrate the interior of the cellules which constitute the muscular tunic.

4th. The influence exercised by the vaso-motor nerves upon the calibre of the vessels is incontestible. Of these nerves, some produce, when irritated, contraction of the vessels which they supply; others, on the contrary, produce, upon excitation, a dilating effect.

5th. The vaso-constrictor fibres and the vaso-dilator fibres are probably united in one nerve, in such a manner that the action provoked by an excitant can differ according to the predominance of one or the other species of fibres.

6th. The vaso-motor nerves are dependent upon the centres from which they arise, and exhibit their action by their transmitting it.

The activity of the centres may be direct or reflex, and gives rise to vaso-constrictor or vaso-dilator effects.

7th. The existence of terminal nervous apparatuses, situated in the vascular walls, must be admitted. They are composed of the microscopic ganglions, distributed among the plexuses which terminate the vaso-motor nerves.

These ganglions are the small *tonic* vaso-motor centres.

8th. The vaso-dilator nerves have for their function the moderating of the constrictor power of the latter centres, and the augmenting thereby of the calibre of the vessels.

9th. The vaso-motor nerves, in their course across the medulla, are distributed to the side from which they arise.

The influence of the parts of the encephalon situated in front of the tubercula quadrigemina is transmitted to the opposite side.

10th. The vaso-motor nerves, by virtue of their action upon the calibre of the vessels, have not only the power of modifying the rapidity of the flow of the blood, but they act also upon the vascular tension, as well as upon the temperature, the color and the composition of the blood.

They are equally concerned in the phenomena of absorption, nutrition and secretion.

Book Reviews.

[NOTE.—All works reviewed in the pages of the CHICAGO MEDICAL JOURNAL AND EXAMINER may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

THE UNITED STATES GOVERNMENT REPORT ON CHOLERA.

- I. CHOLERA EPIDEMIC OF 1873 IN THE UNITED STATES. The Introduction of Epidemic Cholera through the Agency of the Mercantile Marine: Suggestions of Measures of Prevention. By *John M. Woodworth, M.D.*, Supervising Surgeon U. S. (Merchant) Marine Hospital Service. Washington: 1875. 28 Pages.
- II. REPORTS PREPARED UNDER THE DIRECTION OF THE SURGEON-GENERAL OF THE ARMY. (a.)—History of the Cholera Epidemic of 1873 in the United States. By *Ely McClellan, M.D.*, Assistant Surgeon U. S. A. 513 Pages. (b.)—History of the Travels of Asiatic Cholera. By *John C. Peters, M.D.*, of New York City, and *Ely McClellan, M.D.*, Assistant Surgeon U. S. A. 192 Pages. (c.)—Bibliography of Cholera. By *John S. Billings, M.D.*, Assistant Surgeon U. S. A. 316 Pages. Washington: Government Printing Office. 1875.

Observant members of the profession, will not soon forget their surprise and gratification at the appearance of the *Medical and Surgical History of the War of the Rebellion*, and at the way in which it was received by the most competent judges abroad. No such contribution to medicine, gathered from the medical and surgical incidents and accidents of a great war, has probably ever been made before or since. The approbation with which these labors of the Medical Department of the United States Army were received, has not been without influence in stimulating labors like the present, contained in a ponderous octavo of over 1,000 pages. Such a work could have been accomplished in so short a period of time, only through the almost unrivaled opportunities for collecting information, in reference to such a subject, as is at the disposal of the Medical Department of the Army.

It can hardly be said to be an *opus magnum*, with such remarkable resources, literary and original, at command. Still it is such a work as could hardly have been executed from private hands. In either or both of two ways it may be valuable, either on account of the nature and range of the materials, or the character of the discussion to which they are subjected. The former may be good, and the latter inadequate, or even bad. Upon these two points we will concentrate, though not formally, our attention.

The first part is on "The Introduction of Epidemic Cholera, through the Agency of the Mercantile Marine: Suggestions of Measures of Prevention," and is by the efficient and accomplished Supervising Surgeon of the United States Merchant Marine Hospital Service, Dr. John M. Woodworth. This paper of 28 pages, is only one of the many evidences he has given of an enlightened activity, in improving his opportunities, to turn his position to account, not only to the service over which he presides, but to the advancement of the best interests of medicine. As the title of his paper indicates, it is devoted principally to a history of the modes of introduction of cholera into the United States, through the Merchant Marine. In respect to the importance of this question, Dr. Woodworth truly says:

"If it be true that 'cholera has always been brought to America by ships,' the task of preventing future outbreaks within our borders, is a problem in preventive medicine the solution of which would seem comparatively easy. Such solution depends, however, in common with the answer to any question, upon the extent and accuracy of our knowledge of the factors of the problem. Hence it will be necessary to state compendiously what is known and accepted concerning the cause of malignant cholera—its origin, character, mode of propagation, transportation, etc.; a summary which will be of additional use in assisting to a correct estimate of the value of any suggested means of prevention or limitation."

Dr. Woodworth does not attempt a full discussion of

the subject of his paper, but gives rather a summary of what is considered probable by those most competent to judge, as regards the nature of the cause, and of the modes of its propagation and action. Inasmuch as these are important practical questions, we will quote them at length for the benefit of our readers who may not have seen the work itself. They are as follows :

" I. Malignant cholera is caused by the access of a specific organic poison to the alimentary canal ; which poison is developed spontaneously only in certain parts of India, (Hindostan.)

" II. This poison is contained primarily, so far as the world outside of Hindostan is concerned, in the ejections—vomit, stools, and urine—of a person already infected with the disease.

" III. To set up anew the action of the poison, a certain period of incubation with the presence of alkaline moisture is required, which period is completed within one to three days ; a temperature favoring decomposition, and moisture or fluid of decided alkaline reaction hastening the process, the reverse retarding.

" IV. Favorable conditions for the growth of the poison are found (1) in ordinary potable water, containing nitrogenous organic impurities, alkaline carbonates, etc. ; (2) in decomposing animal and vegetable matter possessing an alkaline reaction ; (3) in the alkaline contents of the intestinal portion of the alimentary canal.

" V. The period of morbid activity of the poison—which lasts, under favorable conditions, about three days for a given crop—is characterized by the presence of bacteria, which appear at the end of the period of incubation, and disappear at the end of the period of morbid activity. That is to say, a cholera-ejection, or material containing such, is harmless both before the appearance and after the disappearance of bacteria, but is actively poisonous during their presence.

" NOTE.—It is not meant by this that the bacteria so found are the cholera-poison, since they differ in no appreciable manner from bacteria found in a variety of other fluids. Lebert hints that the bacteria may even be the destroyers of the poison.

" VI. The morbid properties of the poison may be preserved in posse for an indefinite period in cholera-ejections dried during the period of incubation, or of infection-matter dried during the period of activity.

"VII. The dried particles of cholera-poison may be carried (in clothing, bedding, etc.) to any distance; and when liberated may find their way direct to the alimentary canal through the medium of the air—by entering the mouth and nose and being swallowed with the saliva—or, less directly, through the medium of water or food in which they have lodged.

"VIII. The poison is destroyed naturally either by the process of growth or by contact with acids: (1) those contained in water or soil; (2) acid-gases in the atmosphere; (3) the acid secretion of the stomach.

"IX. It may also be destroyed artificially (1) by treating the cholera-ejections, or material containing them, with acids; (2) by such acid (gaseous) treatment of contaminated atmosphere; (3) by establishing an acid diathesis of the system in one who has received the poison."

These conclusions if supported by the facts, even though they are provisional, are of great value, and deserve thoughtful attention. We can only give them as they stand, reserving comment until a later part of this paper.

It will not be possible for us to notice at length, the cases in which the transportation of the cholera-poison from one port to another, has been ascertained beyond reasonable doubt, especially in the clothes and other personal effects of patients who have suffered or died from the disease. They are convincing and complete. There can be no doubt that the disease is caused by some material organic agent capable of being conveyed from point to point. Apart from other interesting relations, which such facts suggest, it is to be noted that they have an especial bearing on that hitherto neglected branch of medicine called *preventive*, which is destined to have an increasing importance as time passes by, and as we approach that millenium in medicine when it will be the principal aim, and practical work of physicians to *prevent* rather than *cure* disease. Who can estimate the value of the lives that will be spared and the general suffering that will be prevented, when we shall so understand the cause of cholera, and its mode of action, as in a rational way to arrest its spread, or to render its cause

inoperative! Works like this great Government Report, which is so largely given up to the history of the introduction and spread of the disease in our own country, as well as in other parts of the world, are of inestimable value, if the task of criticising and serving up the matter contained is creditably executed. The position of Dr. Woodworth, as the Chief Surgeon to the Merchant Marine Hospital Service, is peculiarly favorable for collecting reliable information on these important questions, for it must of necessity be, that it is through this branch of our Marine rather than that of the organized Naval Service, that the introduction of the cholera from foreign countries must be accomplished. Dr. Woodworth has done his part of this work in a clear and creditable manner.

He enters also on a consideration of the means for preventing the action of the poison, in the case of those who are subject to its influence. Let the following quotations speak for themselves, on this point, and on the prevention of cholera in general:

"It may be alleged that in the foregoing pages too great stress has been laid upon the *acid prophylaxis of cholera*, to the exclusion of all others. But the cumulative evidence of the experience of the last sixty years warrants the ground here taken. Beginning with the year 1814, the cholera-literature down to the present time abounds in proofs, clinical, physiological, pathological, and meteorological, of the efficacy of sulphuric acid, and there can be little doubt, despite the *dicta* of the last International Sanitary Conference, that *we possess in the mineral acids a certain means of prophylaxis against cholera.*"

"It is safe to say that malignant cholera can be excluded from our shores with reasonable certainty through an intelligent sanitary supervision of the mercantile marine; in which supervision, while the General Government on the one hand, in exercising its delegated powers for the protection and promotion of the general welfare, shall simply acquire and furnish the necessary information; on the other, the ports themselves, thus forewarned and advised, shall be left to enforce the necessary precau-

tionary and preventive measures in accordance with their own local conditions and requirements. For nothing is more clearly proved by the history of cholera than that epidemics of this dreaded disease can be controlled by *vigorous hygienic measures*. *The true remedy against cholera is preventive medicine.*"

The part of the work which succeeds that of Dr. Woodworth is comprised in twenty-three chapters, as follows: I. Clinical History of the Epidemic of 1873; II. Etiology of the Epidemic of 1873; III. On the Prevention of Cholera; IV. On the Origin of the Epidemic of Cholera that reached the United States in 1873; while chapters V. to XXI. inclusive, are devoted to Narratives of the Epidemics for the same year, in the following States: Louisiana, Mississippi, Arkansas, Tennessee, Illinois, Missouri, Kentucky, Ohio, Indiana, Alabama, West Virginia, Georgia, Minnesota, Pennsylvania, Texas, Iowa and Dakota; while the remaining two chapters contain accounts of "Cholera Cases in New York Harbor," and the "Epidemic (1873) as it affected the United States Army." This portion of the work comprises about 500 pages.

As regards the first chapter, valuable as it may be, as a relation of the symptoms and appearances of cholera, for the purposes of identification and comparison, it does not, so far as we can see, contain anything of importance that is new or valuable when compared with the clinical histories of prior epidemics, that calls for particular remark. Neither will it be possible to enter on a consideration of the accounts, often brief, and not always satisfactory, which have been collected from different physicians residing in the States already named, and whose statements make up the "narratives." Amongst much other matter that is clearly irrelevant they contain many useful facts. This, by far the largest part of the present volume, has a certain value—scientific and historical—and we are glad to see so many fragmentary communications, from so many localities, and from such an extent of territory, preserved in a permanent form.

Neither will it be possible or even profitable, for us to enter into an examination at present, of the trustworthiness and real bearings of the multitudinous details, contained in the second part of the work, which contains a pretty full sketch of the history of the disease from the earliest times down to the present, by Dr. Peters, of New York, and Dr. McClellan, of the United States Army; the latter being the principal author of the volume. But we can commend this to our readers, as one of the fullest in the English language, and in the highest degree valuable and interesting.

Neither will it be possible for us to do more than mention the ponderous bibliography of cholera literature, contributed by Dr. Billings. It is the result of great labor; and however differences in judgment may arise, as to the scheme of classification adopted, it must be acknowledged as an inestimable boon to all students of the literature of this remarkable disease.

We are glad to see such evidences of a wider range in literary activity than has been apparent, until recently, amongst especially English writers in medicine.

This Bibliographical Index deserves to be published separately.

The remainder of our notice will be confined almost exclusively to the second, third and fourth chapters—especially the second, on the “Etiology of the Epidemic of 1873.” In this portion of the work its chief interest centres. The point then before us, is the cause of cholera and its *modus operandi*.

As regards the *nature* of the cause, we have the following proposition:

“That Asiatic cholera is an infectious disease resulting from an organic poison, which, gaining entrance into the alimentary canal, acts primarily upon and destroys the intestinal epithelium.”

As to the details respecting this “organic poison,” there are copious quotations from Macnamara’s, Thudicum’s and other works on cholera; and with no very defi-

nite results. But the object that appeared to Macnamara of most peculiar interest in examining microscopically the discharges and the alimentary mucous membranes, *post mortem*, of cholera patients, was what he calls "molecular matter." It consists of fine, dark granules, or molecules, and pervades in varying degrees, the discharges and the epithelial cells of the diseased mucous membrane. It would be instructive to quote his interesting description of this matter, but we have no space in which to do this. He evidently considers it, rather than the associated bacteria, as the true *materies morbi* of cholera. He says :

"It is from this molecular matter in the vibrionic stage of decomposition, and not from the vibriones themselves, that the dejecta of cholera patients are capable of setting up a morbid action in the intestinal canal of those who may receive it." "The vibriones are but a manifestation of the changes going on in the organic matter, which, when it has passed through the form of vibriones, appears to lose its terrible property of inducing cholera." "The perfectly fresh dejecta in the active stages of the disease contain no vibriones, but toward the end of collapse, when the evacuations are passed less frequently, probably remaining in the intestines for some hours, vibriones may be seen in the fluid immediately after it has been passed."

As regards its nature, he says :

"I have examined these molecules for hours together, with, probably, the highest magnifying power yet constructed, (the $\frac{1}{6}$ of an inch,) in order to bring all the resources of the microscope to bear on this point. I confess I have learned but little through the aid afforded me by this marvelous piece of optical work. The molecular matter, when examined by it, is still nothing more, apparently, than molecular matter—small specks in the epithelial cells. I conceive, however, that the higher the power used, and the more careful the search instituted, the more certain it becomes that this molecular matter is formed in and at the expense of the epithelial cells, blood-globules, gland-cells, or, in fact, any organic matter brought within its influence."

The later statements in relation to the same subject, quoted from an article in the *Centralblatt f. d. Med. Wissenschaften* for January 15, 1874, by Högyes, of Pesth, is not inconsistent with the foregoing.

Let us then suppose for the moment, that the dark "molecular matter" described by Macnamara, is *the* peculiar material product and—in turn—cause of the disease, what is said as to its mode of operation? It appears, especially from the experiments of Högyes, that this matter may act, not only when introduced into the alimentary canal, but also when injected into the veins, and thus made to mingle directly with the blood. What is the mechanism and rationale of the action of the poison?

This is an important question, and one to which we would naturally look for an answer in a ponderous volume like the present. What does the "Report" contain on this topic? Under this relation the elaborate report of Dr. Danforth, of Chicago, upon the pathological specimens obtained by Dr. Hyde in a patient who died of cholera, is the most valuable in the work. In it he makes no distinct mention of the "molecular matter," upon which so much stress was laid by Macnamara. He could find no forms in the discharges nor on the alimentary mucous membrane which he could regard as sufficiently peculiar to be called cholera germs.

And here we notice a great mistake into which the authors of this volume have fallen. The researches of Dr. Danforth are represented as having been made by the Chicago Health Department, and at the instance of Dr. B. C. Miller, sanitary superintendent, when the facts are, that they were made by a committee of the Chicago Society of Physicians and Surgeons, and largely by Dr. J. N. Hyde of the same society, acting with the committee. It is difficult to see how the author could have fallen into such an error as the one to which we allude.

The most important part of Dr. Danforth's report, consists in the account that is given of the appearances

presented by the intestinal mucous membrane. The following quotations may suffice to give an idea of them. He says (p. 38):

“Under a power of about eighty diameters, the following appearances are noted: the mucous and muscular layers seemed to have been much disturbed in their relations, and separated widely apart; between them a very beautiful, loosely-woven web of areolar or connective tissue is seen, sending its delicate filaments across the intervening space, with here and there a little vessel, making its way toward the mucous layer; the latter is unusually thin and unusually smooth on its free surface; not a single perfect villus can be seen, but a few “stumps” of villi are easily made out, as though the missing portion had been rudely torn away. Under a power of 280, the surface of the mucous layer is seen to be almost, in fact *quite* denuded of epithelium, since not a single normal club-shaped cell can be seen. The mucous membrane seems to have passed through some scene of violence, during which its villi have been wrenched from their attachments, and its clothing of epithelium stripped from its surface and carried away. It seems almost beyond belief that a few short hours could have so totally changed the intestinal surface, but every section which I have examined from the specimen of intestine now under consideration, presents precisely the same appearances. Peyer’s glands do not seem to be much altered, quite to my surprise. Possibly they are slightly swollen, but not otherwise perceptibly altered. But, after all, this is not so surprising; the storm is too brief to affect tissues beneath the surface to any great extent. It is rather like a terrible tornado, desolating everything within its reach, but limited in its ravages to objects presenting salient points of attack. The submucous connective tissue and the muscular layer are both beautifully displayed, but neither present any evidence of disease, unless the unusual separation of the mucous and muscular layers be regarded as such.”

These appearances are referred to in various parts of Dr. Danforth’s report, but the above extract may be taken as a fair summary of the more characteristic. There were no other phenomena observed in other parts of the body, that could be called to any marked degree

distinctive, and our attention is to be fixed, therefore, on the condition of the alimentary mucous membrane. Now how shall we account for this wholesale, violent removal of the epithelium of the mucous membrane of the bowel, as has been so graphically described by Dr. Danforth? Is it done by some agency acting on the free surface of the mucous membrane, or from beneath, so as in the latter case to *push off* its epithelial layers?

No attempt is made to answer this question, which is a legitimate and a highly important one, either by Dr. Danforth, or by the authors of this volume, unless, indeed, we consider as such the bare statement in Proposition I, already quoted from the body of the work, that the organic poison "acts primarily upon and destroys the intestinal epithelium." It may be replied, that it was no part of the intention of the authors of a volume of 1,000 pages on cholera, to discuss questions relating to the *modus operandi* of its cause. While the reply would be a valid one, yet it would not diminish the regret of every thoughtful reader, that questions of so much moment have been ignored in the present work. Who is prepared to discuss such questions, if not those who have consecrated so much time to their study? And here we recall a remark made in the beginning of this notice, that such a work as the present, may prove valuable in either or both of two ways: it may be valuable as a repository of facts—materials, simply as such; or it may be chiefly valuable on account of the character of the discussion to which they are subjected. In the first respect, a work may be highly reputable, while in the latter, it may be inadequate and imperfect in any degree, though the contrary could hardly be the case.

In relation to the present work, it is highly valuable as a mass of materials, bibliographical, historical, actual, but the discussion is altogether inadequate. The matter has not always been judiciously analyzed, and the process of true reflective generalization, has not been

carried to even a respectable extent, and certainly not for want of matter or opportunity. There is a remarkable disparity between the labor of collecting materials, and that of digesting them.

But to return. From a consideration of the phenomena of the disease, (since the nature of the cause and its mode of action is known only by inference,) what can be rationally said as to its real pathology, or of the mechanism, or processes, through which its phenomena come to pass? Is it a local disease limited to the mucous membrane, or one of a more general character?

If of the latter kind, how can we account for the remarkable flux from the mucous membrane, and the appearances which it presents *post mortem*, and which are induced with such astonishing rapidity in many cases? Does the cause, whatever it may be, operate through the blood, or the nervous system, or in both ways?

But not to ask further questions, we will declare that in our judgment cholera is not a local disease, if by that term we are to understand that its primary and peculiar sphere of action is that of the mucous membrane of the bowels, and that it is a disease of a more general character, especially involving the action of the splanchnic nerves on the intra-abdominal circulation, and in a way which it will not be possible now to explain, but which it is our intention soon to draw out at length in a special paper on this subject.

The absence of a discussion of such questions, is one of the principal defects of the present work. But taken altogether, it is one which will prove a credit to American medical literature, and will serve, like its predecessors from the medical department of the army, to increase the respect of our transatlantic brethren for the profession and its doings in this country. J. S. J.

A TREATISE ON HUMAN PHYSIOLOGY; designed for the use of Students and Practitioners of Medicine. By Jno. C. Dalton, M.D., Professor of Physiology and Hygiene, in the College of Physicians and Surgeons, New York, etc. Sixth Edition, Revised and Enlarged, with 316 Illustrations. Pp. 828. Philadelphia: Henry C. Lea. 1875.

The sixth edition of this work comes to us revised, enlarged and enriched by over forty new illustrations.

That a new edition should be so soon demanded, is a flattering endorsement of the book by the profession, and we may safely predict that this edition will be acknowledged to be better than any of its predecessors. It contains about fifty per cent. more reading matter than before, but a change in the typographical arrangement necessitates for this increase the addition of only about one hundred pages to the volume.

The first change the reader familiar with previous editions will notice, is the adoption of the centigrade system of weights and measures, instead of the old pounds, ounces, feet and inches. This is undoubtedly best adapted to scientific purposes, but, as the old system is so much more familiar to the general reader, why did not our author at least give a table showing the value of grammes and centigrammes, in grains, and corresponding estimates for measures of length and capacity? A table of this kind would not only prove a great convenience to many, but would actually aid in the final adoption of the decimal system, by associating it with that which is in actual use.

The centigrade scale has been also adopted for thermometry, but a ready way is given for changing its degrees to those which correspond on the scale of Fahrenheit, the latter, however, usually appear in the text in brackets.

Having thus the two scales in constant conjunction, we shall soon become accustomed to the new and better system, and be glad to adopt it, to the exclusion of the old.

The chapter on "Proximate Principles" is much enlarged and improved. Proximate principles are now described in five classes instead of three, to correspond more nearly with recent progress in organic chemistry. In the chapter on "Food," as in previous editions, we are surprised to find no mention made of our gaseous food, oxygen—that most important of all. For we can survive but a few minutes without it; and with it we can live for days and even weeks—all other alimentation

failing. And as oxygen constitutes about one-fourth by weight, of the food required by the body, it would seem to be worthy of a place among the "substances necessary to sustain the process of nutrition," which is our author's definition of food. The chapter upon "Digestion" is very satisfactory. Figure 34, however, is said to be a lobule of the parotid gland of an infant, injected with mercury. To the student who has access to no other illustrations of the salivary glands, this drawing would convey but little information, and that, we fear, not strictly accurate. Figure 48, illustrating Brünner's glands, would in this case afford a clearer impression.

A strange mistake which crept into the fourth edition, has been corrected in this, relating to the digestion of food in the stomach of the ruminants. When an animal of this order has finished browsing, and the process of rumination commences, the food is regurgitated to the mouth by an inverted action of the muscular walls of the paunch and œsophagus, and slowly masticated. It then descends again along the œsophagus; but the lateral opening, which communicates with the first two stomachs, is now closed by muscular action, and the œsophagus, thus converted into a tubular canal, conducts the masticated mass into the *third* stomach, (not the second, as the fourth edition has it). "The exit from this cavity leads directly into the (fourth) abomasus or rennet, the true digestive stomach."

In the table giving the composition of the gastric juice, we see lactic acid has been discarded, and the term "free acid" substituted, which is explained in the text by saying "it is still uncertain whether the reaction of the gastric juice be due to free hydrochloric or free lactic acid." But no mention is made of phosphoric acid in the acid phosphate of lime as an agent in the production of this acidity, a point so much insisted upon by Blandlot, and noticed also by Flint. It certainly deserves a notice in so full an account as we here have of stomach digestion. The chapters on "Intestinal Digestion" and "Absorption" are improved by several new

figures. The chapters upon the "Bile" and the "Glycogenic Function of the Liver" are re-written and very satisfactory. The figures illustrating the spectroscopic appearance of the bile and chlorophyll, from the vegetable kingdom, are exceedingly interesting and suggestive. Our author states in another place, "chlorophyll is of the first importance in vegetable physiology, as it is under the influence of this substance, together with that of solar light, that the inorganic ingredients of the soil and the atmosphere are deoxidized and combined in the form of an organic carbo-hydrate. The process of vegetation proper, that is, the production and accumulation of organic material in the form of starch, sugar, cellulose, woody fibre, and the substance of various vegetable tissues, is inseparably dependent on the presence and action of chlorophyll."

If this be true in the vegetable world, may not the coloring matter of the bile be equally necessary for the formation of the carbo-hydrates in the liver—fat and glycogen? And does the hemoglobine—the coloring matter of the blood—subserve a like important part in nutrition?

Some fine figures are introduced to illustrate the histology of the liver, according to the German school; but nothing is said of the investigations of Beale, in England, who finds the liver cells contained in tubuli analogous to the kidney and other tubular glands. Thus we have but two forms of glands in the body: (1) the follicular, as the peptic and sebaceous, or these compounded into the racemose glands, as the lungs, meibomean glands, etc.; and (2) the tubular glands, as the sudoriparous and cerumenous, or these compounded into the kidney, the liver and the like.

The German school would make a *third* form of gland, in which the secreting cells are not contained in any envelope, but located upon the minute ramifications of the ducts; which absorb the secretion as manufactured, and thus carry it away. In this class they would include the liver, pancreas and salivary glands.

In the chapter upon "The Blood," the description of the spectra of venous and arterial blood, and the amœboid movements of the white blood globules, are the noticeable changes.

The subject of "Animal Heat" is much more fully discussed than in previous editions.

In describing the "Action of the Heart," the statement in former editions is repeated, viz. : that the ventricles elongate during contraction ; but the figure of the frog's heart held between the thumb and finger in order to illustrate the action, is here omitted. Perhaps in subsequent editions the author will describe the shortening of the ventricles, with the majority of other observers.

Figures illustrating the tracings of the sphygmograph in health and disease, are the noticeable additions in the chapter on "The Circulation."

There are one hundred pages more in this edition relating to the nervous system than in the fourth. While the arrangement is nearly the same, there is a detail in description and treatment of each topic, which is much more satisfactory.

In the discussion of "The Function of the Cerebellum," we miss the figure of the pigeon, which in other editions so graphically illustrated the effect upon the movements of the bird—of the removal of the cerebellum, and which contrasted suggestively with that which is retained, showing the effects of the removal of the hemispheres.

The deep origin and distribution of the cranial nerves are fully described and finely illustrated. We must except, however, the illustration of facial paralysis, which wants the clearness and sharpness which have made the other editions, as well as this, in the main so attractive.

The section on "Reproduction" shows less improvement than any other part of the work, for the very good reason, doubtless, that it was here less needed.

During the past few years several new works on Physiology, and new editions of old works, have appeared, competing for the favor of the medical student ; but none will rival this new edition of Dalton. As now enlarged, it will be found also to be, in general, a satisfactory work of reference for the practitioner. D. T. N.

Translations.

THE SYMPTOMS AND TREATMENT OF INFLAMMATION OF THE CILIARY BODY (ACUTE CYCLITIS.)

FROM A. MOOREN'S SYMPATHETIC DISTURBANCES OF VISION.

Translated from the German, by F. C. HOTZ, M.D.

It is a remarkable fact that, however easy may be the diagnosis of cyclitis, the profession is as yet but little familiar with an exact knowledge of the nature of this malady.

Besides the photophobia and lachrymation, one of the first signs of incipient cyclitis is a well marked circle of vascular injection around the cornea. This vascular zone surrounding the cornea like a circle composed of radiating lines, was well known to the ancients under the name of the arthritic vascular ring, and is now known to be common in all forms of acute keratitis and iritis as well as in the first stage of granular conjunctivitis. This symptom alone, therefore, would not be sufficient to establish the existence of cyclitis; it does not acquire any diagnostic significance until it is associated with a great tenderness to pressure of the ciliary region. Pressure with the tip of the finger upon the closed eyelids will never fail to produce a pain which all patients agree in localizing in the upper and inner portion of the globe; but the severity of this pain differs according to the extent of the inflammation and the individual degree of sensibility. It is not unusual to see a robust workman who, under other circumstances, would bravely endure the pain of any external lesion, groan and faint from that caused by a gentle pressure upon the eyelids. Sometimes the sensitiveness is so acute that patients can not tolerate the lightest bandage over their eyes. And wherever we suspect an inflammation of the ciliary ring, we can discover the starting point and seat of the inflammation—latent though it be—with an absolute certainty, by passing a probe over the ciliary region, as I

have frequently seen it done by Von Graefe. There is no symptom more certain and undeceptive for the surgeon as well as for the patient.

The symptoms just enumerated are soon followed by an increase in the depth of the anterior chamber. This phenomenon is less due to an increased secretion of aqueous humor than to a retraction of the iris caused by inflammatory adhesions of its periphery to the ciliary processes. This morbid process is manifested by a projection of the *ligamentum pectinatum** which encases the periphery of the iris as the frame does the crystal of a watch.

In very grave cases I have seen this projection developed in from 20 to 24 hours after a contusion of the ciliary region. Even when the retraction of the iris extends over its whole circumference, the pupil sometimes shows a faint mobility; and is always with comparative facility dilated by atropia unless the iris is implicated in the inflammation. The complete retraction of the iris is an extremely dangerous obstacle to the circulation; for the arteries of the iris, supplied by the two long posterior ciliary and branches of the anterior ciliary arteries, pass over into veins at the pupillary margin and can no longer empty their blood into the venous ring of the ciliary processes and the *vasa vorticosa*. In consequence of this impeded circulation, the veins of the iris appear engorged and tortuous, the epithelial layer is veiled by a fine mist, the aqueous humor becomes turbid; and with these symptoms we generally observe a slight hypopyon that comes and goes. If the cyclitis does not yield to the treatment, or the retraction of the iris has existed for a longer time, slight effusions of blood into the anterior chamber are not of rare occurrence, and the ocular conjunctiva, previously somewhat puffy, soon exhibits the character of a chemosis.

* *Ligamentum pectinatum* is the name given to the fibrous attachment of the anterior surface of the iris with Descemet's membrane; its origin is a little behind the margin of the transparent cornea.

The impairment of the sight keeps pace with the aggravation of the malady. The ophthalmoscopic examination, however, proves that the disturbance of vision is not due merely to the turbidity of the aqueous humor, but should be, to a great extent, attributed to the rapid formation of opacities filling the anterior portion of the vitreous humor, now in the form of a dense mist and again in the shape of numerous floating flakes.

These local symptoms are always attended by signs of constitutional disturbances, usually those of gastric disorder with more or less febrile excitement.

Such are the essential symptoms of cyclitis, but one or another may predominate at times; sometimes the vascular injection, and the symptoms of engorgement that result therefrom, develop with unusual severity; sometimes the neuralgic pain prevails most persistently, resisting the largest doses of quinine, or, by extension, it invades the whole tri-facial nerve, leaving a sensation of numbness over the corresponding half of the face and head, during the period of remission.

In other cases again, the inflammatory and neuralgic symptoms are comparatively slight; the increased secretion constitutes the prominent symptom; and in consequence of the unusual depth of the anterior chamber, the greater width of the pupil and the fine deposits upon the posterior surface of the cornea, the disease greatly resembles serous iritis. We could not affirm that this or that series of symptoms resulted from specific influences; it seems, however, to be a matter of fact, that cyclitis supervening upon operations—that for cataract, for example—sometimes even iridectomy, has a great tendency to assume the character of a purulent inflammation. This tendency to suppuration is still more pronounced in cases of violent contusions of the ciliary region. Under these circumstances a purulent infiltration of the cornea nearly always coexists with or is dependent upon the cyclitis; and terminates in complete necrosis of that membrane.

Whatever form the cyclitis may exhibit, the sensitiveness of the ciliary ring to the touch and the presence of opacities in the vitreous humor, are constant symptoms. I have observed but two cases in which the character of the malady was less distinctly defined, and in which even a transient cloudiness of the vitreous humor did not take place, although there was the greatest tenderness on pressure, a most violent neuralgia which followed each attempt at accommodation, and a most vivid pericorneal redness.

Cyclitis, even when spontaneous, is undoubtedly one of the most dangerous inflammations that can befall the eye; for, besides the importance of the ciliary body itself, the malady, often insignificant and scarcely perceptible in the beginning, may become the source of the most formidable danger.

My observation of the fact, that every attempt of the sound eye at accommodation increases the pain in the eye affected by cyclitis, has induced me to begin the treatment by covering the sound eye with a bandage. After instilling a solution of atropia (Atrop. sulph. gr. ij; Aq. dest. ℥j), I ordered the inflamed eye to be covered by warm poultices, to which hyoseyamus or any other narcotic drug, as *herba conii* or *capita papaveris*, may be added, in order to increase—as many physicians suppose—the sedative properties of the poultices. I can not say that I have found any difference in the effect of simple poultices and those containing narcotic medications. But especial attention was given to having the poultices of a uniform and moderately warm temperature, and to their being renewed at once as soon as the patient complained of chilliness.

In extremely painful cases, the poultices were continuously applied during 4, 6, 10 and even 24 hours, and reapplied after the patient had rested for awhile. This treatment, so simple and yet so beneficial, has never been varied; only where we have had to deal with much chemosis, the use of the poultices was preceded by the

application of leeches to the inner canthus. The leeching had to be repeated very seldom; and was done in those cases only where the robust constitution of the patient did not contra-indicate its employment.

Besides the use of atropia, which acted as a sedative on the secretory nerves of the eye, morphine was administered at night and the hypodermic injections employed as often as the intensity of the symptoms urgently required their use. Hence it has happened that the hypodermic injections had to be repeated twice or three times during a day, although morphine was given regularly every evening. As soon as the neuralgia assumed an intermittent type, quinine was given in large doses. If it did not show any intermittent character, we preferred to prescribe *magnesiæ sulph.* with *sodæ vitr.*, unless the gastric disorders indicated the use of *sodæ bicarb.* or the acids. Whenever the cyclitis was accompanied by increased secretion of aqueous humor, the derivatives were discontinued and diuretic remedies substituted; among which the *extr. colocynth.* combines the derivative and diuretic action most happily. In general, we did not rely upon one remedy exclusively; *scilla maritim.* was used, as well as *digitalis*, or *coccionella*. Of late years, we have ceased to employ sudorific remedies, not only because with most patients they increase congestion of the head and thereby aggravate the malady indirectly, but also because the constant perspiration renders the patient too liable to catch cold. As a rule, we abstain in cyclitis from any operative interference wherever it can possibly be avoided; we perform paracentesis of the cornea only in rare cases and never do iridectomy, no matter how turbid the aqueous humor nor how copious the hypopyon. For, under these conditions, the operation is uncertain in its results, and may be followed by very disastrous consequences.

Such are the simple rules which guide me in the treatment of cyclitis. In cases only of wounds of the sclerotic, or of coexisting irido-choroiditis, the use of atropia

is strictly prohibited, because experience has taught me that the use of atropia under such conditions invariably aggravates the malady. Nor is the atropia used in cases distinguished by excessive vascular injection with chemosis of the conjunctiva, until a decided decrease of the severe injection is observed.

I have no hesitation in saying, that this mode of treatment has proved to be as efficacious as it was simple; for the subsidence of the pain usually was the first sign of its favorable influence; subsequently, a decrease of the vascular injection occurred, while the aqueous humor became clear, and the hypopyon disappeared. I have seen recent cases of frightful cyclitis, in which the entire periphery of the iris was retracted, recover completely within fourteen to eighteen days by the continued use of poultices and a few instillations of atropia.

However favorable a course the disease may take if submitted to rational treatment from the beginning, we must avoid becoming too hopeful. I have seen the neuralgia persist for weeks in spite of the use of the most powerful narcotics, in spite of the most careful attendance, and in spite of all imaginable precautions observed by the patient. At this moment I have under my care a patient suffering from acute granular ophthalmia complicated by cyclitis; during five entire months he had been tortured by the most violent pain day and night. The largest dose of morphine taken internally had no effect worth mentioning; the hypodermic injections only brought relief for a few hours; but complete intermission did not occur till within the last weeks. In this case a most salutary influence on the cyclitis may be attributed to the occurrence of a favorable change in the weather; for at that time the vitreous humor began to clear up, and a few posterior synechiæ were the sole remaining signs of a coexisting iritis.

Medical News and Items.

INTERNATIONAL MEDICAL CONGRESS.—The Centennial Medical Commission is organized with the following officers:

President—Samuel D. Gross, M.D., LL.D., D.C.L. Oxon.

Vice-Presidents—W. S. W. Ruschenberger, M.D., U. S. N.; Alfred Stillé, M.D.

Recording Secretary—William B. Atkinson, M.D.

American Corresponding Secretaries—Daniel G. Brinton, M.D.; William Goodell, M.D.

Foreign Corresponding Secretaries—Richard J. Dunglison, M.D.; R. M. Bertolet, M.D.

Treasurer—Caspar Wister, M.D.

Arrangements have been made for the holding of the Congress in the city of Philadelphia. The Commission propose the following general plan for the organization and business of the Congress:

I. The Congress shall consist of delegates, American and foreign, the former representing the American Medical Association and the State and Territorial Medical Societies of the Union; the latter the principal medical societies of other countries.

II. The officers shall consist of a President, ten Vice-Presidents, four Secretaries, a Treasurer, and a Committee of publication, to be elected by the Congress at its first session, on the report of a Committee of Nomination.

III. The morning sessions of the Congress shall be devoted to general business and the reading of discourses; the afternoons to the meetings of the Sections, of which there shall be nine, viz: 1. Medicine, including Pathology, Pathological Anatomy and Therapeutics; 2. Biology, including Anatomy, Histology, Physiology and Microscopy; 3. Surgery; 4. Dermatology and Syphilology; 5. Obstetrics and Diseases of Women and Children; 6. Chemistry, Toxicology and Medical Jurisprudence; 7. Sanitary Science, including Hygiene and Medical Statistics; 8. Ophthalmology and Otology; 9. Mental Diseases.

Gentlemen intending to make communications upon scientific subjects will please notify the Commission at the earliest practicable date, in order that places may be assigned them on the programme.

The Congress will be formally opened at noon, on Monday, the fourth day of September, 1876, and close Sept. 9th. The registration book will be open daily from Thursday, Aug. 31, from 12 to 3 P. M., in the Hall of the College of Physicians, northeast corner 13th and Locust streets. Credentials must in every case be presented.

All communications must be addressed to the appropriate Secretaries: William B. Atkinson, 1400 Pine street, Philadelphia, Recording Secretary; Daniel G. Brinton, 2027 Arch street, William Goodell, 20th and Hamilton streets, American Corresponding Secretaries.

We are pleased to announce that our quarterly cotemporary, heretofore published in this city, changes its name with the new year, and will hereafter be known as the *Journal of Nervous and Mental Disease*. It will be issued simultaneously in Chicago and New York. Messrs. G. P. Putnam's Sons, of the last named city, taking charge of its issue there. Its editorial management will remain unchanged, as all readers of the former journal will be pleased to hear, but the co-operative assistance has been secured of Dr. Wm. A. Hammond, of New York; Dr. S. Weir Mitchell, of Philadelphia; and Dr. E. H. Clarke, of Boston. The journal is to be also increased in size. It has already become the exponent of the American school of neurologists, and has secured a recognition abroad in which we are proud to participate.

ERRATUM.—In article on "Fragilitas Ossium," page 9, second line from bottom, for "parturition," read *pregnancy*.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS.

SOCIETIES.

Mondays, Jan. 3 and 17—Chicago Med. Society, regular meetings at Gault House, 8 P. M.

Mondays, Jan. 10 and 24—Chicago Society of Physicians and Surgeons, regular meetings at Grand Pacific, 8 P. M.

CLINICS. *Every Monday.*

At Eye and Ear Infirmary, (Peoria and Adams Sts.) 2 P. M.—Prof. Holmes.

At Chicago College, 2 P. M., *Gynecological*—Prof. Merriman.

At Central Dispensary (239 W. Van Buren St.), 2 P. M., *Gynecological*—Dr. Adolphus.

At Mercy Hospital, 2 P. M., *Medical*—Prof. Johnson.

LECTURES. *Every Monday.* At Rush College (18th and Arnold Sts.), 8½ to 12½ o'clock—Prof. Gunn, Miller, Freer and Powell; 4 to 6—Prof. Lyman and Etheridge. At Chicago College, 8½ to 12½—Prof. Jewell, Isham, Hyde and Bond; 3 to 6—Prof. Davis and Nelson, Andrews and Quine, and Roler. At Woman's Hospital College, 9 to 12—Prof. Thompson, Bogue and Blake; 3 to 6—Prof. Paoli, Stevenson and MacDonald.

TUESDAYS.

SOCIETIES.

Tuesday, Jan. 11—Academy of Sciences, annual meeting, 8 P. M. (263 Wabash Av.).

Tuesday, Jan. 25—Medico-Historical Society, regular meeting, 8 P. M.

CLINICS. *Every Tuesday.*

At County Hospital, 2 P. M., *Medical*—Prof. Ross; 3 P. M., *Surgical*—Prof. Bogue.

At Chicago College, 2 P. M., *Gynecological*—Prof. Roler.

At Mercy Hospital, 2 P. M., *Medical*—Prof. Hollister.

LECTURES. *Every Tuesday.*

At Rush College, 8½ to 12½—Prof. Gunn, Miller, Allen and Parkes; 4—Prof. Lyman. At Chicago College, 8½ to 12½—Prof. Jewell, Isham, Merriman and Bond; 3 to 6—Prof. Davis and Nelson, Andrews and Hatfield, and Byford. At Woman's Hosp. Coll., 9 to 12—Prof. Marguerat, Bartlett and Fitch; 3 to 6, Prof. Delafontaine, Curtis and MacDonald.

WEDNESDAYS.

CLINICS. *Every Wednesday.*

At County Hospital, 2 P. M., *Ophthalmological*—Dr. Montgomery; 3 P. M., *Gynecological* [—Prof. Fitch.

At Chicago College, 2 P. M., *Gynecological*—Prof. Nelson.

At Mercy Hospital, 2 P. M., *Surgical*—Prof. Andrews.

LECTURES. *Every Wednesday.*

At Rush College, 8½ to 12½—Prof. Hay, Freer, Allen and Parkes; 4 to 6—Prof. Lyman and Etheridge. At Chicago College, 8½ to 12½—Prof. Hollister, Isham, Hyde and Bond; 3 to 6—Prof. Davis and Curtis, Jones and Quine, and Roler. At Woman's Hosp. Coll., 9 to 12—Prof. Dyas, Earle and Thompson; 3 to 5—Prof. Paoli and Stevenson.

THURSDAYS.

CLINICS. *Every Thursday.*

At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.

At Chicago College, 2 P. M., *Gynecological*—Prof. Merriman.

At Central Dispensary, 2 P. M., *Gynecological*—Dr. Adolphus.

At Mercy Hospital, 2 P. M., *Medical*—Prof. Johnson.

LECTURES. *Every Thursday.*

At Rush College, 8½ to 12½—Prof. Gunn, Miller, Allen and Parkes; 4 to 6—Prof. Ross and Lyman. At Chicago College, 8½ to 12½—Prof. Hollister, Isham, Merriman and Bond; 3 to 6—Prof. Davis and Nelson, Andrews and Hatfield, and Byford. At Woman's Hosp. Coll., 9 to 12—Prof. Marguerat, Bogue and Fitch; 3 to 6—Prof. Delafontaine, Curtis and MacDonald.

FRIDAYS.

SOCIETIES.

Friday, Jan. 14—State Microscopical Society of Illinois, regular meeting at the Academy of Sciences, 8 P. M.

CLINICS. *Every Friday.*

At County Hospital, 2 P. M., *Medical*—Prof. Ross; 3 P. M., *Surgical*—Prof. Bogue.

At Chicago College, 2 P. M., *Gynecological*—Prof. Roler.

At Mercy Hospital, 2 P. M., *On Dis. Eye and Ear*—Prof. Jones.

LECTURES. *Every Friday.*

At Rush College, 8½ to 12½—Prof. Gunn, Freer, Allen and Parkes; 4 to 6—Prof. Holmes and Etheridge. At Chicago College, 8½ to 12½—Prof. Hollister, Quine, Hyde and Bond; 3 to 6—Prof. Jones and Curtis, Andrews and Quine, and Roler. At Woman's Hosp. Coll., 9 to 12—Prof. Hotz, Bartlett and Blake; 3 to 5—Prof. Paoli and Stevenson.

SATURDAYS.

CLINICS. *Every Saturday.*

At Rush College, 2 P. M., *Surgical*—Prof. Gunn; 3 P. M., *Diseases of the Brain and Nervous System*—Dr. Hay.

At Chicago College, 2 P. M., *Gynecological*—Prof. Nelson; *Surgical*—Prof. Andrews; 3 P. M., *Medical*—Prof. Davis.

LECTURES. *Every Saturday.*

At Rush College, 8½ to 12½—Prof. Hay, Miller, Freer and Parkes. At Chicago College, 8½ to 12½—Prof. Hollister, Quine, Sherman and Hatfield; 3 to 6—Prof. Davis and Nelson, Andrews and Quine, and Byford. At Woman's Hosp. College, 9 to 12—Prof. Marguerat, Earle and Fitch; 4 to 6—Prof. Curtis and MacDonald; 3 to 5—Prof. Thompson.

There are six special Clinics daily at the South Side Dispensary (at Chicago College) for students of the Chicago College. A daily Clinic is given at Dispensary of Hospital for Women and Children, 1½ P. M., for students of Woman's Hospital College.